DETERMINANTS OF COMPETITIVE ADVANTAGE IN THE TEXTILE AND APPAREL INDUSTRY IN TANZANIA: APPLICATION OF STRUCTURAL EQUATION MODELING

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A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Open University of Tanzania a thesis titled: "**Determinants of Competitive Advantage in Textiles and Apparel Industry in Tanzania: Application of Structural Equation Modelling"** in fulfilment of the requirements for the Degree of Doctor of Philosophy in Business Management of Open University of Tanzania.

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DECLARATION

I, **John Rogath Mboya,** do hereby declare that, this thesis is my original work and has not been presented, and will not be presented to any University for similar or any degree award.

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Date

DEDICATION

This work is dedicated to my wife Rose; my children Happiness, Steven, Emanuel and Edmund.

Thank you for being proud of my work.

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ABSTRACT

This study aims at investigating key factors that determine competitive advantage in Tanzania using Structural Equation Modelling (SEM) method. The study uses cross-section survey design and non-probability sampling method; and data were collected from Dar es Salaam, Arusha and Tabora using a case study of textile and apparel industry. The sampling unit used were the employees of the industry knowledgeable on industry dynamics and with at least college education. The study proposes two inter-related micro and macro competitive advantage models. In the first place, exploration of the key underlying dimensions of both models was done using Exploratory Factor Analysis. Thereafter, based on the extracted principal components, SEM method using Confirmation Factor Analysis was used to find out whether the parameters of the micro model that involve Porter's Five Forces, Value Chain Management practices and Core Competencies; and macro model involving Porter's Diamond Model, produces significant CFA fit indices. The major findings are that, both the micro and the macro models are confirmed to be determinants of competitive advantage in Tanzania, as predicted by the theory. Furthermore, the results demonstrate linkage among the determinants. The diamond conditions, value chain management practices and core competency are indeed measures of competitive advantage. The determinants are considered to be key inputs for the strategic fit in the design of sustainable competitive advantage strategies for firms. Furthermore, the textile and apparel industry and government need to collaborate to improve diamond conditions to provide enabling environment necessary for competitive advantage. Lastly, with some adjustment, the model can also be replicated to other industries as well, in improving their competitive advantage.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

AFI	Absolute Fit Indices
AP	Alternative Products
AGFI	Adjusted Goodness of Fit Index
AGOA	Africa Growth Opportunities Act
ANOVA	Analysis of Variance
ATC	Agreement on Textiles and Clothing
BOS	Blue Ocean Strategy
BPB	Buyers Purchasing Power
BPS	Bargaining Power of Suppliers
BTS	Bartlett's Test of Sphericity
CA	Competitive Advantage
CF	Competitive Forces
CAD/CAM	Computer Aided Design/Computer Aided Manufacturing
CF	Competitive Forces
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CIM	Computer Integrated Manufacturing
CM	Core Competencies
COMESA	Common Market for Eastern and Southern Africa
DB	Doing Business
DC	Demand Conditions
DCA	Dynamic Capability Approach

EAC	East African Community
EFA	Explanatory Factor Analysis
EPZs	Export Processing Zones
ERP	Economic Recovery Programme
EU	European Union
EM	Enterprise Management
FC	Factor Conditions
FDI	Foreign Direct Investment
FMS	Flexible Manufacturing Systems
FSR	Firm Strategy, Structure and Rivalry
FYDP	Five Years Development Plans
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GFI	Goodness of Fit Index
GV	Government
ICT	Information and Communication Technologies
IFI	Incremental Fit Indices
KMO	Kaiser-Meyer-Olkin
MC	Marginal Cost
MFA	Mult-Fiber Agreement
MR	Marginal Revenue
NFI	Normed Fit Index (NFI)
NTB	Non-Tariff Barriers
PCA	Principal Component Analysis

PDM	Porter's Diamond Model
PFF	Porter's Five Forces
POPC	President's Office, Planning Commission
R&D	Research and Development
RBV	Resource Based View
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
RS	Related and Supporting Industries
RV	Rivalry among competitors
SA	Structure Approach
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
SCA	Sustainable Competitive Advantage
SCM	Supply Chain Management
SEM	Structural Equation Modelling
SIDP	Sustainable Industrialization Development Policy
SMEs	Small and Medium Enterprises
SRMR	Standardized Root Mean Square Residual
STR	Strategy
NT	Threat of New Entrants
USA	United States of America
USD	United States Dollars
VCMP	Value Chain Management Practices

CHAPTER ONE

INTRODUCTION

1.1 Background

The textiles and apparel sector is one of the industries that have contributed to economic transformation of many countries. This is because the development of cotton-textile apparel value chain has proved to be important towards industrialization process of various regions and countries. To mention the few examples; the industrialization of England in the eighteen century started with a boom in the textile industry and later spread in other sectors; and also the industry played a significant role in the East Asian miracle (Tang, 2014). Different countries such as Japan, United Kingdom, United States, Germany and Japan; and regions such as East Asian Tigers and Association of Southern Asian Nations, all have transformed their economies by developing the labour intensive industries including the textile and apparel.

Further to this, it is empirically supported that developing countries have been able to significantly increase and diversify exports with positive effects on incomes, employment and poverty reduction (Paul and Mombert, 2007). For example, the industry had a potential to generate 1.5 million new jobs for Bangladesh (Kabeer and Mahmoud, 2004). The industry contributed on industrialization process of Asian countries such as China, Bangladesh, Singapore and China. As such, it has therefore been considered as one of key drivers of economic development; and has been significant in terms of growth of Gross Domestic Product, employment and foreign currency (Lim, 2003).

For the case of Tanzania, the industry could help to attain industrial transformation, just has been in other countries. As elaborated by Wangwe *et al* 2014, the Government of Tanzania recognizes the role of the industrial sector in transforming the economy to high productivity and dynamic economy.

The evolution of the textile and apparel industry in Tanzania goes parallel with policy changes, demand pattern and global dynamics. It started with a mixed economy in 1961-66 in which the colonial pattern of production and trade focused on import substitution and the industrial production was labour intensive (Wangwe *et al* 2014) with less emphasize on technologies and value addition. The Arusha declaration was pronounced in 1967 in which all means of production were nationalized; which introduced state-led import substitution, alteration of ownership and management of established entities in favour of direct ownership and management of state organizations. It is well documented that the performance of the economy was satisfactory up to the mid 1970s (Mbele, 2005; Kahyarara, 2010).

The key programmes for industrial growth included the import substitution (1967-85), Basic Industrialization Strategy (1975s), National Economic Survival Programme (1981-1982) and Structural Adjustment Programmes (SAPs) in 1982-86. Adoption of these reforms was done as a result of a series of macro-economic shocks such as global recession, sharp increases in the price of oil, adverse terms of trade, and domestic policy failures; which all plunged Tanzania into serious macroeconomic crisis (Mbele, 2005). Faced with this situation, the Government adopted the Economic Recovery Programme (ERP) in 1986 to restore economic stability and accelerate structural reforms; specifically to create a sustainable position

of the balance of payment, correcting budget deficits, addressing inflation and reforming micro-economic frameworks (Wangwe *et al* 2014).

As the result of the emerging structural challenges, starting in the mid-1990s, the government withdrew from production and trade activities, and started to promote private sector led economy. A policy shift was made to liberalize the economy to expand the role of market forces and integration into the global economy (Mbele, 2005). The firms had a varied response as a result of the reforms: some firms adopted defensive strategies by reducing the number of workers and freezing of salaries; and others adopted offensive strategies through upgrading their technologies, operations and production of textile products (Kweka and Semboja, 1998).

As one of the interventions to build a strong market economy, in 1996 the Government adopted a 25 years Sustainable Industrial Development Policy (SIDP) with the aim of attaining sustainable development of the industry. The SIDP defines the role of the private sector to be directed on production and commercialization of products and services and the role of government is limited to provision of enabling environment. The country further adopted the National Development Vision 2025 to contribute on the goal of attaining semi-industrialized and competitive economy by the year 2025. The Government also adopted the Export Processing Zones in 2002 and Special Economic Zones in 2006.

Although all the reforms implemented had some elements of attaining productivity (Kahyarara, 2010); the major issue emerging from the policy evolution is that, the manufacturing industry, the textile and apparel inclusive, has not been able to

transform to produce high value added as expected (Wangwe et al., 2014). This is attributed to the lack of robust strategies on enhancing firm and industry's competitive advantage.

The key feature underlying the reforms is that the textile and clothing exports have been erratic over the years partly exacerbated by such reforms, as well as the effects of globalization and market liberalization reforms. Further, the industry has not contributed to economic transformation as happened in other countries, and this raises a critical policy concern. Prior to the economic reforms, the textiles and apparel sector was performing plausibly well. After 1990s, however, the challenges emerging from globalization and the market reforms characterized by withdrawal of government from production and market activities forced most of the firms to shutdown. Manufacturing plants were sold off by the government to private investors since early 2000s; and the Government's initiatives through privatization policy enabled most of the firms to revamp production but could not sustain external competitive pressure.

The privatization policy resulted into increased capacity utilization from 30 percent before privatization to 40 percent by 2008; and the processing of cotton in the country increased from 20 percent to 30 percent. However, this performance is low as compared to the global standards, and it demonstrates existence of production and supply side constraints in the industry. Notwithstanding this performance, data from the Ministry of Industry and Trade (MIT) shows that the exports of textiles and apparel industry reached a total value of USD 140.7 million in 2010 (MIT, 2011); of which the cotton textiles accounted for USD 100.4 million (71%); followed by other

vegetable textile fibres worthy USD 12.7 million; and twines, cordage, rope, cable and nets worthy USD 9 million. Total garment exports amounted to USD 11.6 million only, of which USD 8.7 were knitted and USD 2.9 million consisted of woven garment representing a mere 8.2 % of total textiles and cotton exports. The major destination markets for the Tanzania's textiles and apparel are USA and EU. The exports to the EU and USA have been erratic and low due to a number of market entry and supply side constraints.

The exports of textiles and apparel to major destination markets including USA have not been impressive during the last ten years. Starting from a low level of USD 0.2 million in 2000, exports of textile from Tanzania grew to USD 3.3 million in 2004, and reached a peak in 2005 with a total value of USD 4.1 million; but have then dropped to USD 1.2 million, before rebounding slightly to USD 2.0 million in 2009 and 2010 respectively. This is attributed to various challenges faced by the local textile and garment manufacturers, despite the preferences accorded by African Growth and Opportunity Act (AGOA) market. According to East Africa Community (EAC), AGOA is a non-reciprocal arrangement that opened duty and quota free access into the US market for approximately 7000 tariff lines from Sub-Saharan African countries (EAC, 2015).

Although European Union (EU) is the largest importer of textile and clothing worldwide, Tanzania's textile and clothing exports to this market in 2010 were negligible amounting to Euros 6.8 million only; of which Euros 3.8 million consisted of cotton fibre and textiles; Euros 1.8 million of other vegetable textile fibres and related products, and only Euros 1.3 million were comprised of garment. This trend

poses a question as regards export performance of the industry and the underlying external attributes that determine flow of trade such as market access conditions encompassing tariff and Non-Tariffs Barriers (NTBs).

It also raises a question as regards measures to address supply side constraints that encompasses a wide spectrum of reforms including the sustainable competitive elements to revamp the industry. The industry is faced with a number of challenges: for example, it has broken value chain in which major processes such as spinning, weaving, knitting, clothing and dyeing are considered as separate sectors of the same industry; not integrated and managed in one value chain. The technical level of the industry is seriously outdated and most of the equipment is 30 years old, impeding production level and quality of textile products (Tanzania Gatsby Trust, 2007). The value addition is low given that over 80 percent of Tanzanian lint is exported unprocessed directly to regional and international markets, with less than 20 percent being utilized by the local textile mills. In practical point of view, this is a serious shortcoming as the benefits that accrue to industrialization (direct and indirect employment, foreign exchange, taxation and spillovers) are indirectly exported in favour of importing countries.

In addition, due to supply side constraints, the industry has not been able to utilize the market opportunities arising from the regional markets including the East African Community (EAC), Southern African Development Community (SADC) and Common Market for Eastern and Southern Africa (COMESA); as well as preferential market access granted through AGOA (George and Kweka, 2005). Notwithstanding the challenges, the textiles and garment industry is one of the promising industries in

terms of attracting Foreign Direct Investments. The industry is pronounced in the National Development Vision 2025, Five Years Development Plan and Long Term Perspective Plan.

Given this situation, the firms need to adopt competitive strategies to benefit from globalization. This is because, competitive advantage is intensified by the globalization and production; and processing technologies that require firms to adopt features that will make the products differentiated in the market place. Technological advances are also transforming communication methods between consumers and firms. All these changes require adoption of competitive rationales that need to be considered for the firms to attain sustainable competitive advantage. In view of globalization forces, the firms and industries are investing efforts to win in the competitive environment characterized with high degree of rivalry. They do so by deploying their efforts to develop competitive strategies that enable the firms to attain sustained competitive advantage. This implies having several attributes such as openness in thinking, quick adaptation to environment, responsiveness to change, informed decisions and broadening of mind (Anjana, 2008).

Above all, another argument for the need to work on reversing the situation is that, Tanzania's competitiveness climate to support growth of the industries is not encouraging. According to World Economic Forum (2012), Tanzania ranked 120th on Global Competitiveness Index (GCI) of 3.56 in 2011 and 2012 respectively. The Doing Business (DB) indicators published by the World Bank shows that in 2012 Tanzania ranked 124th, 127th, 131st and 127th and 131st in 2008, 2009, 2010, 2012, and 2015 respectively. This signifies that the cost of doing business in Tanzania is

high and therefore much need to be done to improve the business and investment climate.

Given this background, the basic motivation for this research is to explore determinants of competitive advantage for the textile and apparel industry in Tanzania. To contribute this, in the first place, literature review has been undertaken to determine key attributes can help to enhance firm competitiveness within Tanzania environment. The study is based on the fact that, the basic tool for gaining and sustaining competitive advantage is strategy; the design of which requires corporate managers to be informed of contemporary competitiveness knowledge. To contribute to sustainable strategy formulation for competitive advantage, Porter's work on Competitive Strategy in 1980 and Competitive Advantage in 1985 have ever since contributed substantively on competitive positioning school by firms and industries (Porter, 2008; George and Brian, 2007). The Porter's view of competitive advantage was complemented in 1990s by resources and knowledge based view of management. According to this school of thought, firms develop knowledge and competences based on organization learning (Barney 1991; George and Brian, 2007). The adoption of this new thinking was evident as the PFF was regarded as static in circumstances when the industry was changing rapidly. This view holds that competitive advantage arises from internally core competencies, from knowledge and organisation learning (Hamel and Prahalad, 1994; Senge, 1990; Barney, 1991). Given that the textile and apparel industry is one of the industries with big potential for growth, economic transformation and prosperity, this study aims at investigating key competitiveness attributes and explores linkages among them.

1.2 Statement of the Problem

Competitive advantage has been a subject of much investigation. There has been a growing interest among researchers, academicians and policy makers to study the determinants of competitive advantage (Sultan, 2007; Adjani, 2008; Dhobis, 1991; Adour *et al* 2011; Balkan and Fatima, 2012; Grant, 1991; Byoungho and Moon, 2006). The major reason is that, firms and industries cannot sustain profitability and market share if they are not innovative and competitive. In spite of this significance, it is evident that there is major gap in competitiveness knowledge especially for developing countries (Rajiv and Doreen, 2002).

The existing theories of competitiveness relate to the experience of firms in developed countries; theories that relate specifically to experience of firms in least and developing countries remain undeveloped. This gap in knowledge is also noted by Porter (2008), who challenges that much is known about competitive advantage, but less is known about interrelations and linkages that are necessary to attain high competitiveness. In addition, little is known about what advantages that distinguish firm's competitive advantage and how these advantages or disadvantages are attained (Day and Wensley, 1988).

Taking an example, the PDM was developed to a large extent within the context of USA, Japan and EU; and therefore, a lot remain to be desired in showing its relevancy to small open economies, which are not part of the triad (Rugman and D'Cruz, 1993). All these examples points out on the need to develop a comprehensive competitive framework. The motivation for developing and testing such competitiveness framework arise from the fact that, there is an increasing

concern among academicians, researchers and policy makers alike on inadequate performance of Tanzania industries, textiles and apparel industry inclusive, in terms of low quality products, poor technologies and inadequate penetration of products in the global markets. Gowrie *et al*, 2012 elaborates this point thus, 'with the progression of organizations into hypercompetitive markets, the continuous need to innovate and communicate becomes harder and thus there is a need to adopt generic strategies to reach out to customers, to be able to gain sustainable competitive advantage'.

More specifically, although much has been written on the significance of Porter's Diamond Model (PDM), Five Forces Model (FFM) and Resources Based View on firm's competitive advantage; relatively little is known on its relevancy to Tanzania's industries, including the textiles and apparel industry. As a matter of fact, empirical studies shows that one set of theories have focused on the marketing positioning by "looking outside" the firm; while the other approach has focused on firms' resources and competencies by "looking inside" the firm. There is emerging gap in linking the two views (Williamson and Verdin, 1993); and the need to establish clear linkages between strategies, value adding activities and core competencies. This is an area that has not been empirically explored to contribute on competitive strategy (George and Brian, 2007).

Therefore, the rationales necessary to lay the groundwork for adopting and implementing strategies in the ever-changing environment should be developed to cope with globalization challenges (Kennedy *et al*, 2009). The justification for such a competitive framework is worthy to be considered. The pace and radical

transformation has lead many theorists and practitioners to develop frameworks within which strategic management's choices can be based (Bernadette, 2013). The most successful countries in today's global economy invest in developing fundamentals of competitive advantage in terms of creating wealth by exporting complex products and services created by highly skilled people (World Bank, 2005).

The need to develop a competitive advantage model in Tanzania has long been recognized an important consideration (Kweka and Semboja, 1998). More ironically, there is inadequate knowledge on how Tanzania's textiles and apparel manufactures can adopt contemporary competitiveness attributes to become more innovative and produce unique products that can penetrate both local and foreign markets. Therefore, given the low competitiveness of the textiles and apparel industry, there is a need to develop a relevant competitiveness framework to better understand how firms in the industry could create and sustain competitive advantage. The purpose of this work is therefore to develop a competitive advantage framework based on micro and macro competitive models and assess their relevancy and linkage towards enhancing firm and industry's competitiveness.

1.3 Objectives

1.3.1 General Objective

The general objective of the study is to investigate the determinants of competitive advantage for the textiles and apparel industry in Tanzania.

1.3.2 Specific Objectives

(i) To explore the underlying dimensions of micro-competitiveness model;

(ii) To explore the underlying dimensions of macro competitive model;

(iii) To find out whether the variables of the micro-structural competitive model combines to estimate a population covariance matrix which is similar to the sample covariance matrix;

(iv) To find out whether the parameters of the macro-structural competitive model combine to estimate a population covariance matrix which is similar to the sample covariance matrix;

(v) To deduce whether there is relationship between the macro and micro competitive models, and;

(vi) To examine whether the regression weights of the parameters of the fitted micro and macro model are statistically significant.

1.4 Research Questions

The research questions, which will be used throughout the study, are:

(i) What are the underlying latent factors on the micro-competitiveness model?

(ii) What are the underlying latent factors on determinants of macro-competitiveness model?

(iii) Do the parameters of the micro-structural model combine to estimate a population covariance matrix, which is highly similar to the sample covariance matrix?

(iv) Do the parameters of the macro-competitive model combine to estimate a population covariance matrix, which is highly similar to the sample covariance matrix?

(v) How the key dimensions of macro and micro competitive models relate to each to each? And,

(vi) Are the standard regression weights of fitted macro and micro competitive models reliable?

1.5 Significance of the Study

This work contributes on using quantitative methods rather than qualitative approach to better understand the determinants of competitiveness advantage using a case study of textile and apparel industry. The study is an important reference for the researchers, academicians, policy makers and private sector stakeholders in understanding determinants of competitive advantage at firm, industry and nation levels. In this regard, the study is not only relevant for the textile and apparel industry; but also it can be used for other industries given that the rationales for analysing competitive advantage do not differ much. Further, given that the research on competitive advantage is contemporary global agenda, it contributes on global efforts on its understanding; and it contributes on advancing international trade theories that focus on comparative advantage towards a contemporary view of competitive advantage.

In doing so, the study contributes on showing on how developing economies could make a radical policy shift from dependence on natural resources based on comparative advantage thinking towards foundations of competitive advantage that are much needed in the globalized world. Finally, the study is relevant for the private sector and firms in understanding the key rationales and competitive framework worthy to consider in competitive strategies formulation, as well as lobbying with the government for better competitiveness climate.

1.6 Delimitation of the Study

The empirical study was conducted in Tanzania. Given that Tanzania's trade pattern is mainly based on comparative advantage in which the export baskets are characterized on low value added products and services; other studies could be done in other sectors. The study focused on three regions which are Dar es Salaam, Arusha and Tabora.

1.7 Outline of the Thesis

The structure of this thesis is as follows: In chapter one, introduction, encompassing background, statement of research problem and objectives have been addressed. In chapter two, theoretical and empirical literature relevant to this work has been undertaken; while in chapter three the materials and methods have been presented. In chapter four, findings and discussion of the results have been presented; and, in chapter six, the conclusion and policy recommendations are made.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter provides theoretical and empirical literature review that is relevant to competitive advantage for this thesis. It therefore starts with a theoretical literature review based on competitiveness theories, key terms used and competitiveness theories on competitive advantage. The critical presentation of theoretical review has been done, presenting the genesis of competitive advantage theories and showing the linkage between economic trade theories and competitive advantage. Finally, empirical literature review on the subject has been revisited and critical assessment done.

The assessment of both theoretical and empirical literature helps in showing the gaps in knowledge on which this work is built upon. Given the subject of the competitive advantage is new to developing countries like Tanzania, to appreciate on empirical relevancy of competitive advantage, case studies of European Union (EU), Japan and China are discussed to shed light on practical understanding of competitive advantage. Further, review of several empirical studies and policies done in Tanzania as regards enhancing industry's competitive advantage have been done. Lastly, based on the literature reviewed, the key gaps in knowledge have been done.

2.2 Definition of Key Concepts

This section defines the key competitiveness terms relevant to this study, grouped into conceptual and methodological definitions.

2.2.1 Conceptual Definitions

2.2.1.1 Competitiveness

The term competitiveness originates from the Latin word *con-petere* meaning to ask together or to search together something that is, trying to commonly achieve a certain favour, permission, aim or possibility (Tamas, 2005). It is an emerging concept built upon traditional comparative advantage theories. The formal definition is given by Porter (2008), who defines competitiveness as ability of a country or entrepreneur to produce and market goods and services, the price and non-price characteristics of which offer attractive package than that of competitors. This definition implies focus at firm and country levels; and takes a comprehensive account on what determines competitive advantage, considering both price and non-price characteristics. Other analysts have noted that the term competitiveness, unlike comparative advantage, has not been rigorously been defined in economics literature.

For example, Pulaj and Kume (2014) argues that it is a relative concept and elusive; and contains both outcome and process evaluations elements (Peter, 2006). Suffice to say, the outcome evaluation is subjective in nature and is linked to welfare assessment; and process evaluation is related to the analysis of technology and production functions of an enterprise (Karl, 2006).

Competitiveness can be measured at firm, industry and national levels (Ambastha and Momaya, 2002); and its analysis can be done taking into consideration internal and external dimensions (Tamas, 2005). At the company level, the term has been defined as the firm's ability to produce products and services more efficiently and effectively than the relevant competitors (Witada, 2009). Ambastha and Momaya

(1999) supports this view by arguing that, ‘research shows that firm level competitiveness matters given that 36 per cent of the variance in profitability is attributed to the firms’ characteristics and actions’. At the industry level, competitiveness is defined as the ability of the nation’s firms to achieve sustained success against foreign competition without protection or subsidies (Sharon and Timothy, 1999). Further, from an economic viewpoint, three measures of competitiveness are used (Aero, 1988).

The first measure is cost competitiveness in terms of unit labour costs, mostly used in perfectly competitive markets. The second is price competitiveness where relative export prices are used and is applicable for heterogeneous markets; and the third measure is non-price characteristics. Critical analysis on these definitions at the firm, industry and national level shows that they all relevant but lack common consensus given that industries cannot attain competitive advantage if the firms constituting the industry are less competitive and nations cannot be competitive if the firms and industries are not competitive.

At the national level, the term competitiveness refers to the set of institutions, policies and factors that determine the level of productivity of a country (World Economic Forum, 2012). Other authors, such as Berna, *et al.* (2000) define macro-economic perspective of competitiveness as the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets, while simultaneously maintaining or expanding the real incomes of its citizens. This view is shared by Scott and Lodge (1985), who define national competitiveness as “the ability to create services, produce and distribute

products in the international markets while at same time earning rising returns to its resources". At the national level, competitiveness is measured by productivity which determines the ability of the nation to sustain high incomes, the level of prosperity that can be earned by an economy and the rates of return of investments in an economy.

Although these definitions contain useful elements for the nations to acquire competitive advantage, they are limited in scope as they do not link up the sources of competitive advantage at the firm level because it is the firms and not the nations that actually compete. In this study competitiveness is defined as a term denoting the process and ability on which a firm, industry and nation acquire sustainable competitive advantage through capitalizing on internal and external competitive dimensions; with the objective of attaining productivity and a goal of growth and prosperity. This definition is built on the premises that the goal of competitiveness is to attain broad based growth that is pro-poor, sustainable and that is driven by productivity strategies.

2.2.1.2 Competitive Advantage

The term competitive advantage (CA) is used interchangeably with distinctive competencies to mean relative superiority in skills and resources (Day and Wensley, 1988). On the other hand, CA captures extra value created by a firm in the industry, and it reflects the differences that enable consumers to differentiate the product (service) from the alternatives in the market (Nicole, 2000; Barney, 1991; Bernadeta, 2013; Kevin 1986). The other meaning is attached to what is observed in the market based on achievement of superior customer value or achievements of lower costs,

and the resultant market share and profitability. This view is further expounded by Alderson (1965) that, according to the market view, CA can be achieved through lowering prices, selective advertising appeals, product improvements and innovations. On the other hand, the firm itself, through its strategic activities, can use the superior skills and resources to set the firm apart from competitors, which reflects the extent to which the firm can do more or less compared to competitors.

Competitive strategy is therefore at the heart of competitive advantage, and it deals exclusively with a company's business plans to compete successfully. It also refer to specific efforts to please customers, offensive and defensive moves to counter rivals, responses to prevailing market conditions and initiatives to strengthen its market position (Arthur *et al.,* 2005). The literature categorizes the sources of competitive advantage in three categories; competitive advantage arising from low cost, differentiation and focus or niche (Porter, 1990; Nguyen, 2010). Businesses need to adopt these strategies taking into consideration the new challenges imposed by globalization, intangibility and business connectivity (Nguyen, 2010; Coyle 1999; Kelly, 1998). In turn, these challenges limit integration of developing countries into advanced markets as a result of failure to adopt competitive strategies. The major argument is that traditional sources of comparative advantage that could benefit firms in developing economies are eroded by these new challenges: firms have to withstand the changing nature of competition using various approaches.

2.2.1.3 Industry Structure

An industry is a group of firms producing products or services that compete directly with each other, and is the basic unit of competitiveness analysis (Porter, 1990;

Porter, 2008). The structure determines the underlying competitive advantage which in turn is determined by the five forces, as well as macro-economic conditions.

There is no universal competitive strategy: in every industry there are salient issues underlying competitiveness, and the firm may use different types of strategies to attain competitive advantage (Nikole, 2000). The generic aspects that need to be considered is the underlying structure which defines the nature of competition as determined by the five forces; and positioning within the industry itself.

The attractiveness and profitability are dynamic in nature; and the most successful firms are the ones that respond to the changing environment as defined by the industry (Porter, 1990). This implies that the long-term success of the firms depends on the context of sustainable competitive advantage underlying the firm as well as its sources.

2.2.1.4 Textile and Apparel Industry

The European Commission (2014) defines products of textile and clothing industry to comprise of: "the treatment of raw materials, i.e. the preparation or production of various textiles fibers, and/or the manufacture of yarns (e.g. through spinning); natural fibers including cotton, wool, silk, flax, hemp, jute, etc; man-made fibers including those coming from transformation of natural polymers (cellulosic fibers e.g. viscose, acetate, modal, etc.); synthetic fibers (i.e. organic fibers based on petrochemicals, such as polyester, nylon/polyamide, acrylic, polypropylene, etc), and fibers from inorganic materials (e.g. glass, metal, carbon or ceramic).

2.2.1.5 Sustainable Competitive Advantage (SCA)

Nicole (2000) and Barney (1991) define SCA as, "...a prolonged benefit of implementing a value creating strategy not simultaneously implemented by the current or potential competitors, along with inability to duplicate the strategy". The term can also be defined as a prolonged and sustained CA; and competitors should not be able to duplicate or copy a firm's strategy (Barney, 1991). For this to happen, the product or service must signal the perceived differences as compared to its absence (Kevin, 1986). Three conditions must be met for such perceived difference i.e. (i) consumers perceive important differences in the attributes between producers' product or service and that of competitors; (ii) such difference is the result of capability gap between the two producers, and (iii) such differences can be sustained over time. Further, Barney (2002) defines sustainable competitive advantage as:

> "A firm experiences sustainable competitive advantage when its actions in an industry or market create an economic value, and when few competing firms are engaging in similar actions. Firms gain competitive advantage when their theory of how to compete in an industry or market is consistent with the underlying economic processes in that industry or market; or when few other firms share this theory or are unable to act upon it completely".

The SCA is important to the firm as it enables the firm to survive when the industry attractiveness and profitability declines (Verdin and Williamson, 2003; Porter 2008), and this is critical as a firm demonstrate its dynamic competencies in all situations. The firm needs to focus on key aspects, which are strategies, based on low cost, ability to differentiate and the scope. Figure 2.1 shows the sources of SCA in terms

of superior resources and skills as internal drivers of the firm performance. These leads to positional advantages in terms of superior custom value and relative lower costs, and the firm must continuously find the innovative ways to sustain the SCA.

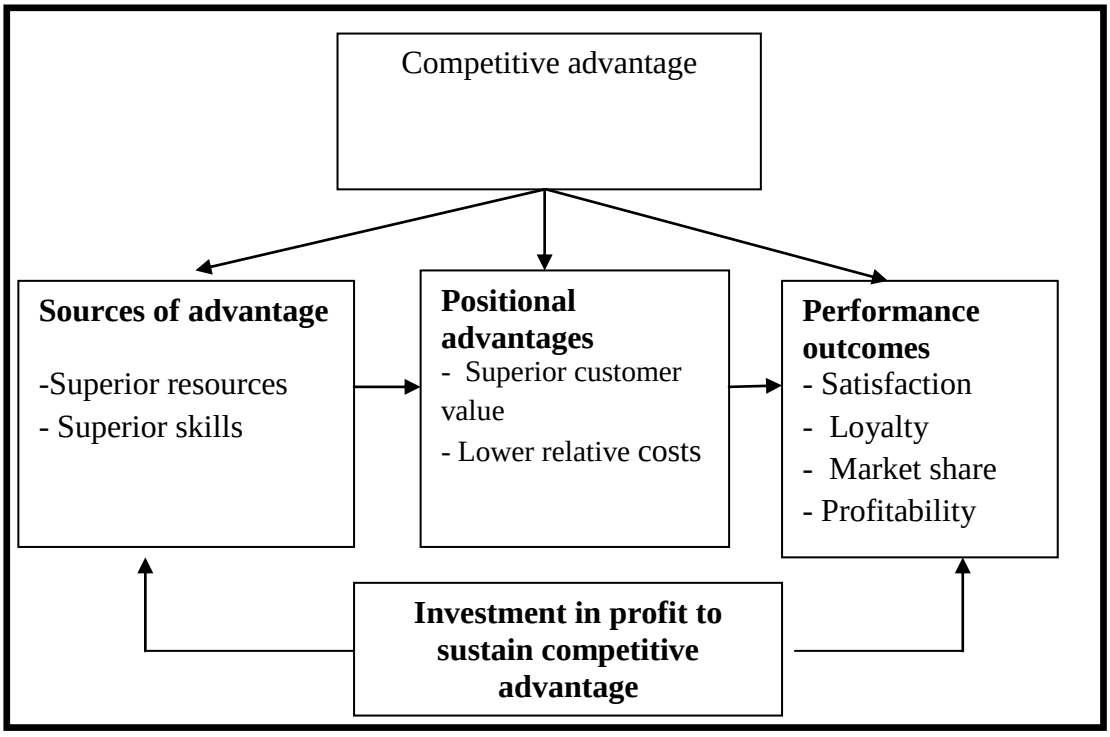


Figure 2.1: The Elements of Sustainable Competitive Advantage
Source: Day and Wensley (1988)

The SCA is therefore value-creating strategy not simultaneously being implemented by current or potential competitors, along with the inability to duplicate the benefits of this strategy. This is core for SCA, and it can be argued that sustainability is considered along the dimensions of durability, mobility and replicability, consisting of various subsets which are internal as well as external to an organization. The sustainability is also accompanied with disadvantages: the firm need to understand the sources of that disadvantages using competitor and customer analysis (Day and Wensley, 1988). A competitor-based analysis requires a firm to assess its relative costs as compared to the competitors, whereas the customer analysis requires the

firm to analyze the changes of the segment structure and differentiation on the products or services.

2.2.2 Methodological Definitions

In this sub-section definitions of key terms used for data analysis are given.

2.2.2.1 Latent Construct

A latent construct is a variable that it cannot be measured directly (Edward and Joost, 2012); instead it is represented by one or more variables that can be measured, called manifest variables.

2.2.2.2 Factor Analysis

Factor analysis is a multivariate technique that attempts to identify underlying factors that are responsible for covariation among the group of independent variables (Jamie and DeCoster, 1998). The goal of factor analysis is to reduce the number of variables used to explain the relationship to determine the few variables that still account for the relationship. The observed variables are modelled as linear combinations of the potential factors, plus "error" terms.

2.2.2.3 Exploratory Factor Analysis (EFA)

EFA is a theory building technique which attempts to discover the nature of the constructs influencing a set of responses (Jamie and DeCoster, 1998), and the purpose is to identify the underlying dimensional structure of a set of measures (Stewart, 2001). In this case the researcher makes no "a priori" assumptions about relationships among factors. EFA uses a common factor model that hypothesizes that

each observed response is influenced partially by the underlying common factors and partially by the unique factors. The methods used to conduct EFA are the Principal Components Analysis, Alpha Factor analysis and Maximum Likelihood Estimation (Stewart, 2001).

2.2.2.4 Confirmatory Factor Analysis (CFA)

The CFA is a theory driven technique whereby a researcher uses the hypothesized model to estimate the population covariance matrix that is compared with the observed covariance matrix (James *et al* 2006). It tests whether the specified set of constructs are influencing the responses in a predictable way (Jamie and DeCoster, 1998). The purpose is to test whether a priori dimensional structure is consistent with the structure obtained in a particular set of measures. The CFA uses structural equation modeling whereby loading on the factors allows evaluation of relationships between observed variables and unobserved variables.

2.2.2.5 Structural Equation Modelling (SEM)

The SEM is a theory testing multivariate technique (Paul, 2008), and has been described as a combination of CFA and multiple regression (Ullman, 2006). That is to say, the technique enables the researcher to simultaneously examine a series of interrelated relationships among the measured variables and latent constructs, as well as between several latent constructs (Edward and Joost, 2012). The overall aim of the SEM technique is to establish that a model derived from theory has a close fit to the sample data in terms of the sample and model predicted covariance matrix (Paul, 2008). The distinction between a SEM model and regression model are: (i) in a regression model, the independent variables are themselves correlated which

influences the size of the coefficients found, and in SEM these interactions are modelled, (ii) SEM estimates all coefficients in the model simultaneously, while regression analysis cannot handle this; and, (iii) multicollinearity is a problem in multiple regression, while in SEM this is not a problem.

Models analyzed in SEM originate from two categories (Hooper, D. *et al* 2008): (i) Exploratory models, which are the newly developed models based on exploratory research or theoretical analysis, or both; and (ii) existing models, which are models based on formalized theories or models that have been developed in previous research and have not been tested before. In general, most SEM models are characterized by multiple dependent and independent variables. SEM Analysis is considered as carrying out factor analysis and regression analysis at the same time (Edward and Joost, 2012). The relationships between latent concepts and their corresponding indicators are analyzed using confirmatory factor analysis, and the relationships between the latent concepts are analyzed by regression analysis. Edward and Joost (2012) in Hair *et al*., 2010) argues that the common method for estimating model parameters is Maximum Likelihood Estimation (MLE) which produces efficient and reliable estimates.

2.2.2.6 Measurement Model

The Measurement Model specifies the indicators for each construct and enables an assessment of specific construct validity.

2.2.2.7 Structural Model

This shows a set of one or more dependence relationships linking the hypothesized model constructs, depicted with a visual diagram.

2.2.2.8 Endogenous Construct or Variable

This is a latent, multi-item equivalent to dependent variable, represented by a variate of dependent variable.

2.2.2.9 Exogenous Construct or Variable

This is a latent, multi-item equivalent to independent variables, determined by factors outside of the model.

2.2.2.10 Absolute Fit Indices (AFI)

Absolute Fit indices determine how well the model fits the sample data and demonstrates which model has the superior fit (Hooper, D. et al 2008), and it provides the overall assessment of how the proposed theory fits the data. Joreskog and Sormom (1993) contend that AFI does not rely on the comparison to the baseline model like the case for the Incremental Fit Indices. Examples of AFI are the Chi-Square Test, Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Residual (RMR) and Standardized Root Mean Square Residual (SRMR). Definitions of these indices are provided as under:

(i) Model Chi-Square (X^2)

The Chi-Square Value evaluates the overall model fit and assess the difference between the actual relationship in the sample and fitted covariance matrix, that is, what would be expected if the model were assumed to be right (Paul, 2008; Hooper et al 2008; Hu and Bentler, 1999). A good model fit must provide an insignificant result at 0.05 (Barrett, 2007; Hooper *et al* 2008), meaning that a value above 0.05 is a condition for a good model fit. Several authors such as Hooper *et al* 2008; Kenny

and McCoach, 2003; Bentler and Bonnet, 1980) contend out several limitations of this index. In the first place, the test assumes variables must be normally distributed, and deviations from normality may result to model rejection though the model is properly specified.

Secondly, the test is sensitive to sample size, and will tend to reject a model based on large sample size. Due to these limitations, Edward and Joost (2012) argues that very rarely the researchers will get a good model fit based on this index as small deviations may result to an indication of poor fit which is always not the case.

(ii) The Root Mean Square Error of Approximation (RMSEA)

The RMSEA tell us how well the model fits the covariance matrix and is related to the difference in the sample data and what would be expected if the model were assumed to be right (Paul, 2008; Hooper *et al* 2008; Byrne, 1998). The model is sensitive to the number of parameters in the model (Diamantopoulos and Siguaw, 2000); and therefore favours parsimonious conditions as it will select the model with few parameters. The RMSEA acceptance threshold has been reduced considerably in the past fifteen years: the values between 0.05-0.10 are considered a fair fit, values above 0.1 are considered to be a poor fit and values (Hooper *et al* 2008), and a value of 0 is considered to be perfect fit (Edward and Joost, 2012).

(iii) Goodness of Fit Statistic (GFI)

Due to the limitations noted under the definition of the Chi-Square test, (Joreskog and Sormom (1993) developed the GFI, which estimate the proportion of the variance that is accounted for by the estimated population covariance (Tabachnick

and Fidell, 2007). This statistic ranges between 0 and 1, with values approaching to 1 indicating a good fit (Hooper et al 2008; Edward and Joost, 2012).

(iv) Adjusted Goodness of Fit Index (AGFI)

This index adjusts the GFI with the degree of freedom, with more saturated model tending to reduce it (Tabachnick and Fidel, 2007). The accepted threshold takes values between 0 and 1 (Edward and Joost 2012), and it has been shown the value between 0.90 and 1 provide an indication of excellent fit (Hooper et al., 2008).

(v) Root Mean Square Residual (RMSR) and Standardized Root Mean Square Residual (SRMR)

Both RMR and SRMR are the square root of the difference between the residuals of the sample covariance matrix and hypothesized covariance matrix **(**Hooper *et al* 2008). The range of RMR is calculated based on the scale of each indicator, and differences in questionnaire items used makes this index difficult to interpret (Kline, 2005; Hooper *et al* 2008). As an alternative, the SMR addresses this problem, and the index is comparatively easier to interpret with values ranging between zero and one.

2.2.2.11 Incremental Fit Indices (IFI)

The IFI are also known as comparative **(**Hooper et al 2008; Miles and Shelvin, 1998) or relative fit indices (McDonald and Ho, 2002). It compares the fitness of the model under consideration to the baseline model (Edward and Joost, 2012). Examples of IFI are the Normed Fit Index (NFI) and Comparative Fit Index (CFI) discussed hereunder:

(i) Normed Fit Index (NFI)

This test statistic assesses the model by comparing the X^2 value of the model to the X^2 value of a null model (Hooper et al 2008). A value of this statistic ranges between 0 and 1, with values approaching 1 indicating a good fit.

(ii) The Comparative Fit Index (CFI)

The CFI is a revised form of NFI. It is not affected by model complexity (Paul, 2008) and the index performs well even with small sample size (Byrne, 1998; Tabachnick and Fidell, 2007). This statistic assumes that latent variables are uncorrelated and compares the sample covariance matrix with the null model. Just as the NFI, the value for this statistic ranges between 0 and 1.

2.3 Theoretical Literature Review

This section represents literature review of theories and models on competitive advantage relevant to this study. It conceals contemporary theories on competitive advantage, which explain superiority of firm performance in terms of innovation and upgrading, as the source of corporate success. In contrast to the traditional economic wisdom that advocate a firm or nation specialize on the product (or services) on which it has comparative advantage, the section presents modern theories and models that advocate that superiority in product innovation and internal corporate efficiencies enables a firm to produce products that are unique and differentiated, which are able to attract a premium price.

2.3.1 Porter's Five Forces

There is extensive literature on the need to undertake industry analysis, and Porter's Five Forces (PFF) is frequently used to assess the competitive environment

surrounding the firm and profitability (Porter, 1990, 1998, 2006; Piracy and Thomas, 1990; Michael *et al* 2002; Kennedy *et al*, 2009; Ogres and Omer, 2008). The PFF is a tool to assess the industry structure to capture outside forces that affect firm profitability. The determinants of PFF are bargaining power of buyers, threat of new entrants, bargaining power of suppliers, threat of substitute products and rivalry among existing competitors. In so far as the firm understands its industry structure, it is in better position to develop a generic competitive strategy based on cost reduction or differentiation and deliver superior performance through coordinating its value chain activities (Porter, 2008; Walley and Thwaites, 2011).

The configuration of five forces determines intensity of rivalry in the industry, which in turn determines the long run profitability of the firms in the particular industry. Analysis of the industry in term of the five forces helps to position the firm against competitors by taking defensive or offensive strategies (Orges and Omer 2008).

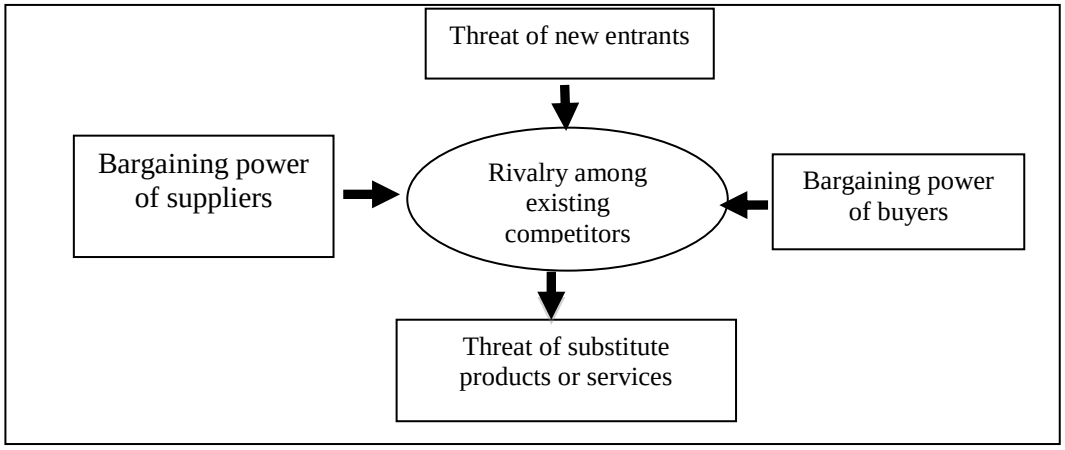


Figure 2.2: The Five-Force Model

Source: Porter, 2006 p. 3-35

The configuration and nature of the five forces differs in every industry and this demands critical analysis of forces in any distinct industry. For example, in the

industry for which the five forces are favourable, such as soft drinks, computers, pharmaceuticals and cosmetics, many competitors earn attractive returns on invested capital; while, in the industries where there is intense competition such as in rubber, aluminium, metal products and semiconductors, only few firms are profitable and have less incentives to enter the industry (Porter, 1990; 2008).

The fist determinant is the barriers to entry which refers to the barriers preventing firms to enter the industry; and it determines the concentration of firms in the industry (Pulaj and Kume, 2014). According to Porter (2008), the determinants of barriers to entry are economies of scale, demand side benefits of scale, customer switching costs, degree of product differentiation, capital investments and unequal access to distribution channels. New entrants drive down prices and profits that firms in the industries can charge which depend on barriers to entry, profitability and severity of retaliation from the existing producers. Further, it depends on advantages held by competing firms including the learning curves, locations and patents, and government policy (Porter, 1990; Shanna *et al.*, 2005).

Managers need to understand the threat of new entry because it puts a cap on profits that a particular firm gets in an industry, which in turn forces firms to lower their prices, or else opt for upgrading products or scale up investments. Industries are classified according to the number of sellers; the degree of product differentiation; presence or absence of entry and shrinkage barriers. The intensity of rivalry is what matters and it depend on the level of saturation within the industry as determined by various factors such as equal competitors' strength, the rate of industry growth, fixed and operating costs, and economies of scale.

The second attribute is the presence of substitutes in the industry. The availability of substitute products occur when multiple products perform similar functions in the market place, and therefore firms have to offer superior qualities to avoid loss of market share (Shanna *et al.,* 2005). Dynamic firms explore market trends and product features that affect the market share.

Therefore, it is important to understand the nature of substitute products given that substitutability is a potential risk to firms, as the existing market must be shared amongst the firms (Shanna *et al.,* 2005). The risk increases because customers can leave the product altogether as competing firms offers similar products (Pujab and Kume, 2014).

The third attribute is bargaining power of buyers which occurs when leverage is given to buyers who demand lower prices, higher qualities and services (Shanna *et al* 2005, Porter, 1990; Pujab and Kume, 2014). This is determined by concentration of buyers or volume of purchases, switching costs, likelihood of backward integration and if the buyers are informed about demand, market prices and supplier costs.

The fourth attribute is bargaining power of suppliers, which is a mirror of the bargaining power of buyers. The supplier's account for about 70 percent of manufacturing costs, and the easiness of suppliers change of input prices affect the final prices and quality (Pujab and Kume, 2014). Supplier's control increase with high concentration of selling industries, few or no substitutes, the level of differentiation and switching costs (Porter, 1990; Shanna *et al* 2005).

Understanding the Five Forces model is important to benchmark the industry's attractiveness and profitability, though the model fails to empirically justify the determinants in rigorous quantitative analysis. The forces are important in the efforts to determine profitability and the generic strategies that the firms employ, but ignore macro-economic conditions such as price trends, inflation rates and interest rates in influencing firm profitability. The model does not encompass the attributes of perfect competition in micro-economic reasoning which are large number of buyers and sellers, perfect information, barriers to entry and exit, homogeneous products and absence of economic frictions like transportation costs.

Further, the PFF model does not show linkages with other techniques of industry analysis such as SWOT which can equally portray the nature of industry attractiveness. Furthermore, the PFF has been criticized on the ground that the basic unit of analysis is the industry rather the firm: on this front, Rumelt (1991) contend that firm specific factors are important to profitability of businesses rather than industry wide factors. The model is also criticized as it presents the static view of the industry and an inside-out view of the industry thus ignoring the internal dimensions.

2.3.2 The Diamond Model

The PFF discussed earlier looks at attractiveness of the industry, and as such, it is an assessment model. Assuming the industry is not attractive, the key issue to consider is determinants of competitive advantage which can influence the industry. Put in another way, the PDM is considered to complement the PFF. The PDM (Porter, 1990, 1998) is highly cited as one of the best models that help to benchmark determinants of industry and nation's competitive advantage (Armen and Laurence,

2006; Federico and Barbe (2007); Bala, 2011; Byoungho and Moon, 2006; George and Brian, 2007; Grant, 1991; Prunea, 2011). The model explains the new paradigm shift of competition among firms (Thomas, 2010), and attempts to answer the question why some industries and nations gain competitive advantage in the international markets while others do not. It is the home based model as it specifies that all controllable variables that affect industry competitiveness are confined in the home industry (Cartwright, 1993). The PDM is comprised of five determinants; which are factor conditions, demand conditions, related and supporting industries, firm strategy, structure and rivalry and the role of government.

In brevity, Porter extends the traditional international trade theory of comparative advantage that focus on endowments and grouping of factors into land, labour, capital and entrepreneurship; towards human resources, physical resources, knowledge resources, capital resources and infrastructure (Smit, 2010). In doing so, he discusses the processes by which they are created and their relationships to firms' competitiveness in a comprehensive approach (Grant, 1991). He clarifies that factor conditions are the inputs that are necessary to compete in any industry (Porter, 1990, Moon and Cho, 2002; Federico and Barbe (2007), and they include nation's factors of production such as natural resources and created factors such as infrastructure and skilled labour (Rugman and D'Cruz, 1993).

Critical assessment of this determinant shows that analysis of factor conditions is an advancement of Heckscher-Ohlin theory of trade which postulates that countries exports the goods that makes most use of the factors for which it is abundantly endowed. PDM argues that that this economic doctrine is obsolete and incorrect.

Moon and Cho, (2002) express this thus…..“Contrary to conventional wisdom, simply having a general work force that is high school or even college educated represents no competitive advantage in modern international competition”. Countries such as Japan and Switzerland have been able to turn the disadvantages with scarce resources to sophisticated economies in the world. The main reason is that a nation does not inherit but instead create most important factors of production (Porter, 1990; Moon and Cho, 2002). This has brought major shift in modern trade analysis as Porter’s work remain at the heart of most business strategies today and provide foundation of sources of competitive advantage in terms of developing linkages between generic strategies, five forces and value chain (George and Brian, 2007).

In addition, PDM has been fundamental in Global Competitiveness Report published annually; thus providing important benchmarks for nation’s competitiveness (GCR, 2012-13) where four stages of competitive advantage have been distinguished: factor-driven, investment-driven, innovation-driven and wealth-driven stages (Armen and Laurence, 2006). The factors of production are further grouped into basic and advanced factors: the basic factors include the natural resources, abundant cheap labour and geographic proximity; and advanced factors include skilled workers, specialized infrastructure and development of research institutions (Armen and Laurence, 2006; Bala, 2011).

Porter (2008) argues that the factors important to competitive advantage are not inherited but created through processes that differ in nations and industries. In the developed economies, the factors that are necessary for productivity and prosperity growth are created, as is evident to the case of Switzerland, Denmark, Japan,

Singapore and many other countries. The experience shows that the countries created, upgraded and made specific factors necessary for competing in a particular industry.

The advanced factors can further be grouped into human resources (quantity, skills and cost of personnel taking into account the standard working hours and ethics); physical resources (abundance, quality, accessibility, and cost of the nation's land, water, fishing grounds, climatic conditions, nation's location and geography); knowledge resources (nation's stock of scientific, technical and market knowledge bearing on goods and services); capital resources (the amount and cost of capital available for finance the industry); and infrastructure (quality and type of infrastructure including the transportation systems and communication systems).

The demand conditions are the nature of home demand for the industry's products and services, and it shapes the rate and character of innovation by the nations' firms (Porter 2008, Moon and Cho, 2002; Rugman and D'Cruz, 1993). It provides the impetus and pressure for firms upgrading to attain competitive advantage (Grant, 1991). The elements that constitute demand conditions include the pressure imposed by buyers on prices, quality and after care services. The key features are the composition of home demand, the size, growth and pattern of growth of home demand and the mechanisms for which domestic preferences are transmitted in foreign markets and product internationalization (Porter, 2008; Richard, 1993). A nation gain competitive advantage in industries where home demand gives earlier signals of buyers as compared to foreign rivals, and forces firms to innovate and upgrade their products. In industries where buyers are sensitive to quality-price

attributes, the manufacturers are forced to improve products qualities and strive for lower cost strategies, which in turn require access to domestic buyers and open communication with them; the aspects that are more relevant than foreign buyers given the distance and other barriers involved. The segment structure of home demand or distribution of the home demand for particular products affect the demand pattern, and in turn firm's competitive advantage. The size of domestic segments is important for creating competitive advantage when there are significant economies of scale, and these forces firms to respect priorities of domestic buyers.

The nation also gains competitive advantage if domestic buyers are the world's most sophisticated and demanding buyers for a particular product or service, because it helps the firms to perceive new needs and meet high quality standards in terms of quality, features and service (Porter, 2008). With regard to anticipatory buyers needs, a nation's firms gain competitive advantage if the needs of home buyers anticipate those of other nations, and this means that home demand provides an early warning indicator of buyer needs that will become widespread (Porter, 2008). Buyers provide early signals to manufacturers of the products that will become evident in the near future. A good example is Japanese buyers who have concern on the energy costs, which is also reinforced by government regulatory bodies imposing required standards.

The size of home market has been a matter of debate with regard to the causality; some argue that a large home market is strength while others argue it is a weakness (Porter, 2008). Nations such as Japan, Switzerland, Sweden and Korea have had limited local demand and the best alternative is exporting. Positioning of firms must

focus on both home and foreign markets, as the most important issue in industries characterized by substantial economies of scale is which nation do firms will move first to produce products and services that will also meet foreign needs.

The existence of a number of independent buyers rather than one buyer creates competitive advantage (Porter, 2008). This is because every customer has unique preferences on product designs and standards and therefore motivates product development. Again, the rate of growth of home demand as well as its absolute size matters a lot: no investor will commit capital in absence of home market. Rapid growth of domestic market will inspire firms to adopt classic technologies and build efficient facilities in the hope they will be utilized.

More importantly, early local demand helps firms to move sooner than foreign rivals to become established in the industry. Assessment of this attribute reveals that demand conditions as explained under the PDM was early postulated by Linder (1961), who was first introduced the concept of intra-industry trade (Smit, 2010). According to the Linder hypothesis, countries with similar per capita incomes will have similar spending patterns and comparable demand, hence promoting intra-industry trade.

The related and supporting industries refer to the presence or absence in the nation of supplier industries and related industries that are internationally competitive (Porter, 2008; Rugman and D'Cruz, 1993; Moon and Cho, 2002). One of the key elements is the concept of clustering which has become popular in academic and policy level, and has ever since received critiques (Motoyama, 2008; Thomas, 2010). A Cluster is

defined as “geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities” (Porter 1990). It also refers to those firms that share activities in the value chain, or those involving complementary products (Melih, 2012).

Competitive home based supplies create advantage in downstream industries through providing cost effective inputs in an efficient, early and rapid means (Richard, 1993; Moon and Cho, 2002). Consequently, related and supporting industries are important to competitive advantage, as for example, Italian gold and silver jewellery companies are successful because Italian companies produce two-third of world’s jewellery making and precious stones recycling. The related and supporting industries generates the spill over effects for the fact that the presence of industry clusters, and economies of scale are internalized to all industry participants.

The firm strategy, structure and rivalry refer to the context in which firms are created, organized and managed, and the nature of domestic rivalry (Porter, 2008; Moon, and Cho, 2002). Richard (1993) summarizes thus: the concept refers to “the ways in which firms are managed and choose to compete; the goals that companies seek to attain as well as the motivations of their employees and managers; the amount of domestic rivalry and creation and persistence of competitive advantage in the respective industry”. Two sources of influence emanate at the firm and national level: at the firm level, key characteristics includes strategies, structures, goals, managerial practices, individual attitudes, and intensity of rivalry within the business sector (Grant, 1991); and at the national level, the attributes includes attitudes

towards authority and management, interpersonal relations, social norms of individuals and professional standards (Porter, 2008).

Firm strategy, structure and rivalry are affected by many factors, the key of which is the national environment and circumstances which affect all industries. The macroeconomic determinants include business environment and investment climate attributes which are not well addressed in the PDM. In this context, Porter notes that a nation can create a context which provides a significant contribution on particular firm's competitive advantage. He gives an example that the national attributes which influence the way firms are organized and managed are attitudes towards authority and management, interpersonal relations, social norms of individuals and professional standards (Porter, 2008).

He also argue that nations succeed in industries in which management practices and modes of organizations correspond to particular environment and are favoured in line with competitive advantage (Porter, 1990). He expound this by giving an example of Italian firms that compete in fragmented industries comprising of lighting, furniture, footwear, woollen fabric, and packaging machines in which economies of scale are modest, competing by avoiding standardized products and operating in small niches. The nature of company goals determines the ownership structure and rivalry; as well as the motivation of individuals who manage firms (Porter, 1990).

The role of government is significant in enhancing competitive advantage, and has a direct role to influence all the determinants of the diamond. The elements that

constitute this role are the subsidies, education policies, actions toward capital markets, the establishment of local product standards and regulations, the purchase of goods and services, tax laws and anti-trust regulation (George 1993; Porter, 1990). It has been pointed out that the government's major role is that of being a catalyst and challenger (Armen and Laurence, 2006), encouraging or even pushing companies to raise their aspirations and move to higher levels of competitive performance.

Porter notes that a nation can create a context which provides a significant contribution on particular firm's competitive advantage, and nations will succeed in industries in which management practices and modes of organizations correspond to particular environment and are favoured in line with competitive advantage. Porter elaborate this by giving an example of Italian firms that compete in fragmented industries comprising of lighting, furniture, footwear, woollen fabric, and packaging machines in which economies of scale are modest, and compete by avoiding standardized products and operating in small niches.

The last determinant, the chance events, are the occurrences that are outside the firms and national government's control (Porter 1990, 2008). According to Richard (1993), "the chance events constitutes new inventions; political decisions by foreign governments; wars; significant shifts in world financial markets or exchange rates; discontinuities in input costs such as oil shocks; surges in world or regional demand; and major technological breakthrough". These elements constitute the risk component that firms need to consider in corporate strategies and develop appropriate mitigation mechanisms. Figure 2.3 shows the Porter's Diamond Model:

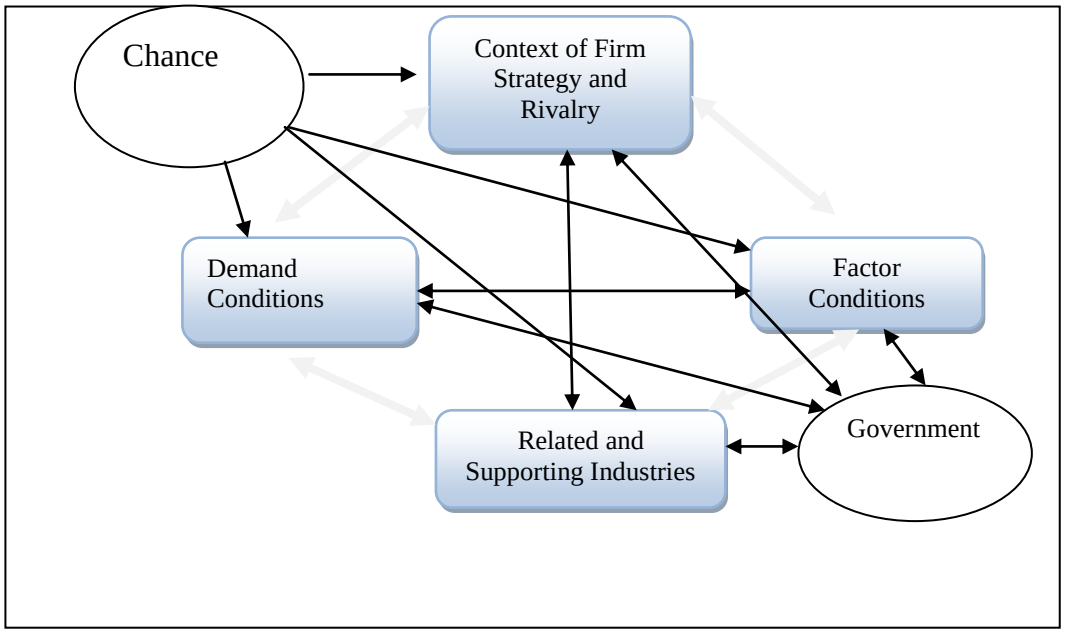


Figure 2.3: The Diamond Model

Source: Porter (2008)

The PDM is not without critics. The major shortcoming is the failure to link the PDM with the Five Forces given the two frameworks affect firm competitiveness. Furthermore, the PDM has been modified to apply to open economies by developing a generalized double diamond model to incorporate international activities, which may occur either within a country or outside a country. The model has also been critized on excluding new sources of competitive advantage for the evolving industry (Byoungho and Moon, 2006); and also the conceptual definition on Foreign Direct Investment (FDI). This is has been a subject of scholarly debate since Porter defines only outward FDI as being a source of competitive advantage but not foreign subsidiaries (Rugman and D'Cruz, 1993). For countries like Tanzania, FDI is a potential source of growth and employment. More important, Waverman (1995) conceives thus... “Porter's Competitive Advantage of Nations is insufficiently theoretical and not empirically rigorous…”.

2.3.3 The Nine Factor Model

The PDM has had little practical relevancy and applicability to developing economies nations (Moon and Cho, 2002). It has been revealed that Korea introduced capital and technology from foreign countries, and has abundant and diverse people with high level of education, motivation and dedication to work. A nine-factor model has therefore been developed to incorporate nine factors accounting for Korea's quick development. These are endowed resources, related and supporting industries, domestic demand, workers, politicians and bureaucrats, entrepreneur, professional managers and engineers; and the chance.

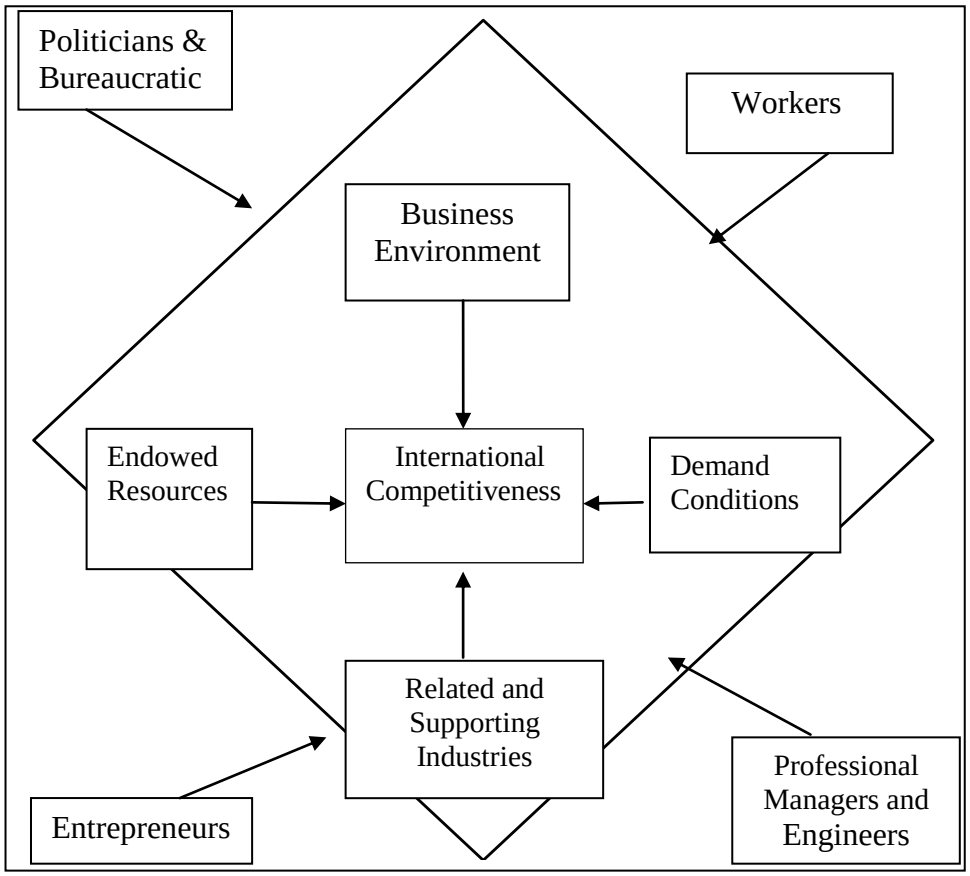


Figure 2.4: The Nine Factors Model for Korean Competitiveness

Source: Moon and Cho (2002)

2.3.4 Resource Based View

Another theoretical argument as regards performance of firm is the Resource Based View (RBV). This view complements the industrial organisation view of structure-conduct-performance (Barney, 2002). The RBV advocates that efficiency in production plays a key role in enhancing competitiveness rather than the market place environment (Shantanu, 2002). Implicitly, it advocates that resources which are rare, valuable, hard to imitate; and those that cannot easily be substituted, provide a basis of sustainable competitive advantage (Barney, 1991). Firms are required to produce products and services that are unique (Porter, 1990); more efficiently and effectively than the relevant competitors (Witada, 2009); and the firm's actions in an industry or market create an economic value relative to other competing firms (Barney, 2002).

The competitive advantage of the firms is therefore determined by how firms are able to utilize their internal organizational resources and competencies rather than by its external environment. This can be expounded by arguing that the internal competencies as advocated by the RBV can be linked to the VCMP of the firm as used in this work. Barney (1991) reiterates that a firm has competitive advantage when it is implementing a value creating strategy not implemented by any current or potential competitor. Thus, firms obtain sustainable competitive advantages by implementing strategies that exploit their internal strengths, while neutralizing external threats and avoiding internal weaknesses. Consequently, creating a competitive advantage requires determining the factors that put a firm in a better position in comparison to what competitors do in the marketplace; and therefore

creating a competitive advantage is equivalent to determining the sources of innovation (Abdulkareem, 2008).

The RBV has been criticized on the following grounds. The model lacks substantial managerial implications or operational validity as it implies that firms strive for infinite innovations (Collis, 1994). Moreover, its sustainability is not achievable because skills and resources constantly change (Fiol, 1991) and it is not a sufficient theory of firm (Foss, 1996).

2.3.5 Strategic Management Theory

The strategic management theory is directed to the need for change in response to changing environmental circumstances and institutional arrangements, focusing on what should be done to bring up changes (Gray and Karp, 1994). As such, it can be considered as an extension of the RBV, it focuses on external dimensions rather than the internal performance of the firm. It is concerned on identifying long term threats and opportunities and how firms can develop their assets and capabilities to gain competitive advantage.

2.3.6 Generic Competitive Strategies

As this study aims at contributing on strategy formulation by the firms, it is worthy to consider the types of strategies the firm can pursue. Porter's generic strategies determine above-average performance in the industry which determines sustainable competitive advantage (Porter 2008). The generic strategies have been called positioning strategies (Day 1984; Walley and Thwaites, 2011); and have been distinguished to the sources advantages (Aaker, 1989; George and Brian, 2007) that

emphasizes on firms assets and skills. Competitive advantage exists when a firm's strategy give it a competitive edge in attracting customers and defending against competitive forces by offering a good product at a lower price, a superior product worthy paying for and a best-value product (Arthur *et al.* 2005). The firm needs to assess the industry structure using the PFF, and then decide the appropriate strategy to adopt. Porter does not explicitly show the process on which the five forces analysis helps the firm to design the strategy, though it has much value addition. The generic strategies that firms can adopt are low lost strategies, differentiation strategies and focused (market niche) strategies. The type of advantage and scope of advantage forms the generic strategies, and the firm must select one of the five generic strategies to compete, otherwise it is said to be stuck in the middle (Porter, 1990; Orges and Omer, 2008), labelled by letter S in Figure 2.5.

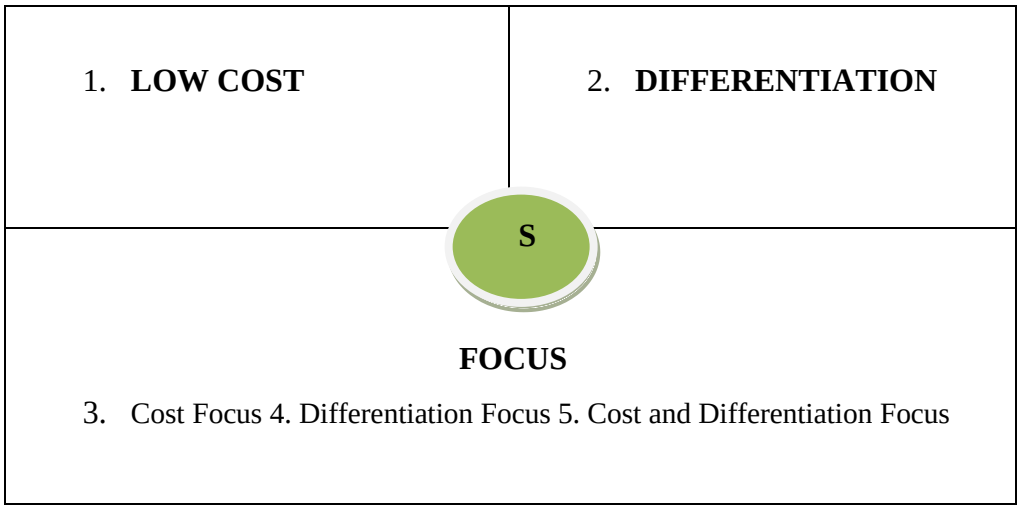


Figure 2.5: Types of Generic Strategies
Source: Porter, 1990; 2008

It implies that firms need to win competition by being more innovative in strategy planning than just lowering prices or improving existing products (Nikole, 2000). The strength and weakness that a firm possess is a function of relative cost and

differentiation, which in turn stems out of industry structure. Lower cost strategy is the ability of the firm to produce, design and market a comparable product at lower costs more efficiently than its competitors (Porter, 1990). An example of this strategy is Korean steel and semiconductor producers that have penetrated against foreign competitors (Porter, 1990).

In this strategy, the competitive firm is the one that invest in low cost production processes while at the same time attaining quality products. Shanna *et al* 2005 argues that cost leadership requires the firm to adopt efficient scale utilization, efforts to reduce costs and avoidance of marginal costs control. This is an advantage to firms with high bargaining power of buyers as a threat to firm productivity; the firm need to control the costs to counterbalance the rivalry. Differentiation as a generic strategy is another source of competitive advantage as it gives firms ability to provide unique and superior values to the buyer in terms of product quality, special features and after sale services. Differentiation can arise from many sources including alteration of product or service sold, improving relationships in the firm divisions, improved product features, being the first mover in the market, improved accessibility to customers, good product mix, linkage with other firms and reputation or loyalties (Barney, 2002).

The basic premise of linking differentiation to economic analysis is that rational consumer maximizes satisfaction by buying the products and services that offers the higher utility. Differentiation strategies enable firms to win the rivals by selling products with the unique features, thereby overcoming industrial threats. Firms strive to create products or services that is perceived by customers and/or industry as

unique and having superior attributes of value (Grant, 1995; Shanna, *et al.*, 2005). In selling a differentiated product, the firms operate under monopolistic competition scenario as opposed to perfect competition market structure. In this situation, the firm is able to charge above normal profits, as the price is below the equilibrium level of intersection of marginal cost (MC) and marginal revenue (MR), and the output, Qs. Given that the price exceeds the average total cost (ACs), it gives the firm a possibility to charge supernormal profit as shown in the shaded region in Figure 2.6.

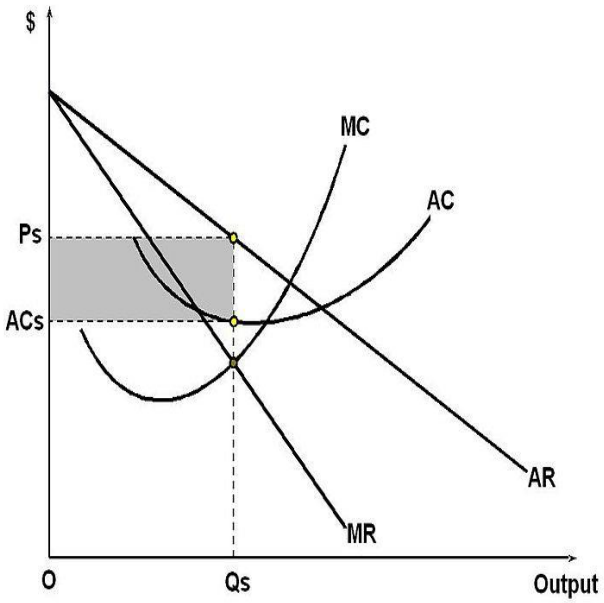


Figure 2.6: Product Differentiation under Monopolistic Competition

In Figure 2.6 the firm maximizes its profits and produces a quantity where the firm's marginal revenue (MR) is equal to its marginal cost (MC). Due to its differentiation strategies, the firm is able to collect a price based on the average revenue (ARs) curve. The difference between the firm's average revenue and average cost, multiplied by the quantity sold (Qs), gives the total profit.

Achieving both cost and differentiation strategies are difficult, the optimal mix of the two strategies enables the firm to produce at low cost and produce products that are differentiated. The firm must also decide on a relevant competitive scope to position itself: choosing the varieties of products to produce, the distribution channels, the type of buyers, the geographic areas for concentration and the related industries to compete (Porter, 1990). The type of advantages that firms possess can be illustrated by three examples based on Japanese, Korean and Scandinavian ship makers. Japanese ship building offers high quality vessel at premium prices (differentiation), while Korean shipyards purse cost leadership strategy in producing varieties of good not of superior quality (Porter, 1990).

Finally, a focus as generic strategy implies that a firm can serve a group or market more efficiently that those firms that try to serve the general population. This require one to understand the nature of segments in any industry as the sources of profitability are different, since serving different segments requires different strategies in the same industry. For example, Italy is successful in fashion leather footwear while Taiwan is successful in inexpensive leather footwear (Porter, 1990).

2.3.7 Value Chain

The concept of value chain refers to all the activities in which the firm competes in an industry, comprising of primary activities and support activities (Porter, 1990). The business unit's generic value chain is comprised of nine components which are sub-divided into two groups. The first category is primary activities comprised of inbound logistics, operations, outbound logistics, marketing and sales, and after sale services; and supporting activities which are firm's infrastructure, human resources

management, technology development and procurement (Porter, 2008; Pinar and Trapp, 2008). The role of strategy is to configure and link the activities for the firm to perform superior performance in terms of low cost or differentiation. Consequently, upgrading any of activities and managing the linkages among the activities is the potential source of competitive advantage. It is not only the linkages, but coordination of the entire value chain is important; for example, on time delivery requires that the inbound logistics, operations, materials management and important inputs necessary for the end product are in place. There has been another view on configuration of the value chain that looks at customers, value proposition (what to offer) and a value network that will deliver the promised service (Kumar, 2004; Pinar and Trapp, 2008).

Porter (2008) argues that, a firm's value chain and the way it performs activities is a function of histories, its strategy, its approach in implementing its strategy, and the underlying economies of the activities themselves. The firm is a typical unit of constructing the value chain, because the industry is too broad to give signals of sources of competitive advantage.

<table>
<tr><td rowspan="4">Support Activities</td><td colspan="5">Firm Infrastructure (e.g. finance, planning etc)</td><td rowspan="5">Profit Margin</td></tr>
<tr><td colspan="5">Human Resources management</td></tr>
<tr><td colspan="5">Technology development</td></tr>
<tr><td colspan="5">Procurement</td></tr>
<tr><td>Primary Activities</td><td>Inbound Logistics</td><td>Operations</td><td>Outbound Logistics</td><td>Marketing and Sales</td><td>After Sale Service</td></tr>
</table>

Figure 2.7: The Firm Value Chain

Source: Porter, (2008)

Porter gives an example, two airlines competing in the same industry each have different value chains embodied in different gate operations, crew policies and aircraft operations (Porter, 2008). Figure 2.7 illustrates the firm's value chain:

The rationale of presenting theoretical underpinnings of the value chain is that this work considers that the sources of competitive advantage in no way can be delinked to the value chain management process. This disaggregates a firm into its strategic relevant activities that help to explain the costs minimization and potential sources of differentiation. A firm gains competitive advantage if it can perform these activities more cheaply or better than competitors (Porter, 2008).

2.3.8 Value Chain Systems

According to Porter (1990: 44), the company's entire environment of competing in an industry is called the value chain system, and it includes the suppliers who provide inputs such as materials, components, machinery and purchased services to the firm's value chain. The inputs are transformed within the firm's value chain comprising of primary and support activities, and the finished product passes on to the chains of distributors and retailers, and finally to buyers' value chain. Gary and Olga (2013) illuminate further the meaning of this concept:

> '…..the range of activities involved in the design, production and marketing of products, categorized into buyer-driven and producer driven value chains. Industrial and commercial firms have both promoted globalization, establishing two international economic networks. One is "producer driven" and the other is "buyer-driven". In producer-driven value chains; large, usually transnational manufacturers, play the central roles in coordinating

production network (including their backward and forward linkages). This is typical of capital-and technology-intensive industries such as automobiles, aircraft, computers, semiconductors and heavy machinery. Buyer-driven value chains are those in which large retailers, marketers and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in developing countries....''

The advancement of the value chains is shaped by the role of Government under the PDM; and the firm's own strategic orientation. The value chain system is shown in Figure 2.8:

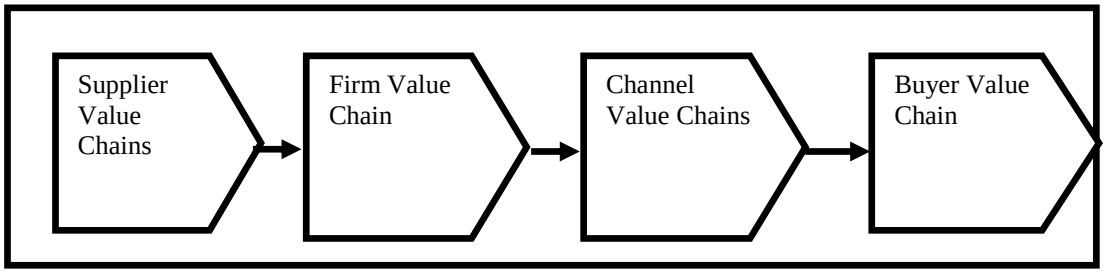


Figure 2.8: The Value Chain System
Source: Porter (2008)

2.3.9 Core Competency

Core competencies are at the centre of firm's capability to attain competitive advantage; the firm need to deploy its maximum effort to develop the competencies (Adjani, 2008; Hamel and Prahalad, 1990). The competencies are measured at the level of people and at the level of technology (Adjani, 2008); and enhance the firm's ability to manage the value chain and value systems. This is important for the company to be able to capture a significant share of profits in the market segment.

Flexibility in the top management is key to respond to changing circumstances in firm's internal and external environment, entailing being flexibility in terms of thinking, responsive to change, freedom, broadening of mind etc.

2.3.10 Schools of Thought on Competitive Advantage

Early studies on competitive advantage focused on analysis of firm's strategy using Strength, Weaknesses, Opportunities and Threats (SWOT). This was known as a design school. Chandler (1962) was among the first scholars who studied competitive advantage and according to him, industry structure follows strategy; and that the most complex type of structure is the result of the concentration of several basic strategies (Chandler, 1962: 14; Jay, 2012). A strategist should undertake both internal and external analysis of the firm; followed by selecting an appropriate strategy suitable to that analysis (Porter, 2008). The sources of SCA emanates from implementing strategies that exploit their internal strengths; through responding to environmental opportunities, while neutralizing external threats and avoiding internal weaknesses (Barney 1991).

However, the Design School did not furnish strategists with detailed tools for analysis of the competitive environment. This gap in the strategy literature was addressed by the work of Michael Porter, who adopted the competitive positioning school. This holds that a firm should assess its industrial structure and then design strategies to adopt to the external environment. Accordingly, a positioning approach looks at the company's position in the economic marketplace, and it considers how a firm can achieve that position; how to defend it against competitors, how to achieve higher profits than other firms through market positioning. It implies that a firm

should design strategies based on the competitive environment as determined by five forces and then acquire the resources needed to implement the strategies (Porter 2008). The firm has a choice between three generic strategies for achieving above-average performance in a selected industry: cost leadership, differentiation, and focus.

Moreover, the positioning school did not furnish the strategist with the tools to assess the internal functioning of the firm. It has been criticised not only on its static nature, but also has been described as "outside-in" approach to strategy; whereas knowledge, core competencies, value adding strategies and resources are regarded as 'inside-out' approach to strategy (McKiernan, 1997).

This was complemented by the Resources Based View (RBV) which examines the link between a firm's endowments of superior resources to performance (Barney 1991; Margaret, 1993). It is based on using firm's internal strengths to take advantage of opportunities and address threats in the market; with an aim to create SCA through the acquisition, utilization, and exploitation of firm-specific resources and capabilities.

Another school of thought is what is considered in this study as the integrated conceptual framework that considers competitive strategies comprehensively. The justification for this conceptual framework is as follows. In capturing the dimensions in a comprehensive manner, Gowrie et al 2012 has provided a model that defines SCA using four schools of thoughts comprising Structure Approach (SA), the Resource Based View (RBV) approach, the Blue Ocean Strategy (BOS) approach and Dynamic Capability Approach (DCA).

To start with, the SA is determined by cost leadership which is the ability of the organization to compete based on low costs, and this determines firm success. As such, competitive advantage is achieved by the firms through defending and positioning its attractive position from the current and potential rivals, through manipulating the entry barriers (Porter, 1990). On the other hand, the DCA uses organizational responsiveness as a key element that helps the organization to respond in an appropriate manner and in required speed, to mitigate the negativities or capitalize on positive opportunities generated in an organization's environment. The BOS approach is a market perspective of competing. It can be explained by the ability of the firm to differentiate and undertake innovative strategies for the products: it holds that the firm should develop products whose characteristics are difficult to be imitated by competitors. The RBV approach uses supply chain management as a key attribute, and primarily focuses on the development of competitiveness for the future; based on the premises that the primary purpose of an organization is not only to exist but also to thrive sustainability which can be achieved by taking into consideration both present and future opportunities. As explained earlier, the RBV holds that not all firms hold the SCAs; instead, when a firm's resources and capabilities are valuable, rare, and socially complex, those resources are likely to be sources of sustained competitive advantage. The firm's resources and capabilities that are the sources of competitive advantage are defined by Barney (2002):

> "A firm's resources and capabilities include all of the financial, physical, human, and organizational assets used by a firm to develop, manufacture, and deliver products or services to its customers. Financial resources include debt,

> equity, retained earnings, and so forth. Physical resources include the machines, manufacturing facilities, and buildings firms used in their operations. Human resources include all the experience, knowledge, judgment, risk taking propensity, and wisdom of individuals associated with a firm. Organizational resources include the history, relationships, trust, and organizational culture that are attributes of groups of individuals associated with a firm, along with a firm's formal reporting structure, explicit management control systems and compensation policies".

Understanding the attributes affecting the firm competitive advantage is important as a firm can gain competitive advantages-despite the unattractive, high threat, low opportunity environments within which they operate, and the firm's resources are the sources of competitive advantage. The capabilities and resources that a firm has must be unique and not shared with other firms for the firm to sustain its competitive advantage. The differential capabilities and resources are the potential source of competitive advantage that enables a firm to position in the industry. Barney (1991) argues, "...if, in addition, competing firms face a cost disadvantage in imitating these resources and capabilities, firms with these special abilities can obtain a sustained competitive advantage". This can occur through duplication in copying the capabilities and resources, or through substitution. The sustainability of capabilities depends on the historical background of a particular firm, as the government would have supported the firm to attain competitive advantage.

The landscapes for competitive advantage is changing as managers and policy makers encounter strategic discontinuity that changes the nature of competition

(Michael, *et al.*, 1988). The competition landscape is no longer at level playing field; there are many hills and valleys that need to be taken into consideration in strategy formulation. Further, the strategist need to consider that, as the result of emerging technological change, the product design is altered including the way the product is marketed, produced, delivered, and support services provided (Porter, 1990). The advantages are nullified due to non-incremental technological change that nullifies the knowledge of existing leaders. The changing buyer needs and priorities also alter the demand of products, thereby shifting the competitive advantage to other firms. Not only these, the opportunity for creating advantage also arises when a new segment emerges, and when absolute or relative costs changes (Porter, 1990).

Another requirement of sustaining competitive advantage is the ability to position the firm as the result of globalization and technological revolution (Michael *et al* 1988). This is because the new competitive landscape produces perpetual disequilibrium that requires firms to be innovative and produce products and services of high quality and low prices to satisfy informed customers, which in turn requires managers to reduce uncertainties. To be able to remain competitive, firms must adopt flexible strategies to be able to cope with the changing strategic landscape. Firms must continuously improve current strategic actions, organizational structure, communication systems, assets deployment and investment strategies. Further, firms should take into consideration the external forces affecting the firm by understanding the dimensions and strengths of five forces (Porter, 1990).

The strategist leaders are required to navigate the firm in the new competitive landscape; and to be able to do this they must be visionary and transformative leaders

(Michael *et al.,* 1988). The internal capabilities must be considered as advocated by the RBV: firm needs to develop and nurture unique resource and competencies to attain competitive advantage (Michael *et al* 1988, Barney, 1991). By doing so, firms needs to develop human resources strategically by focusing on key competencies, and employment of new technologies such as Computer Integrated Manufacturing (CIM), Flexible Manufacturing systems (FMS) and Computer Aided Design and Computer Aided Manufacturing (CAD/CAM). These internal capabilities are the sources of competitive advantage as they enable the firm to design innovative, differentiated and quality products. These dimensions and relationships are shown in Figure 2.9.

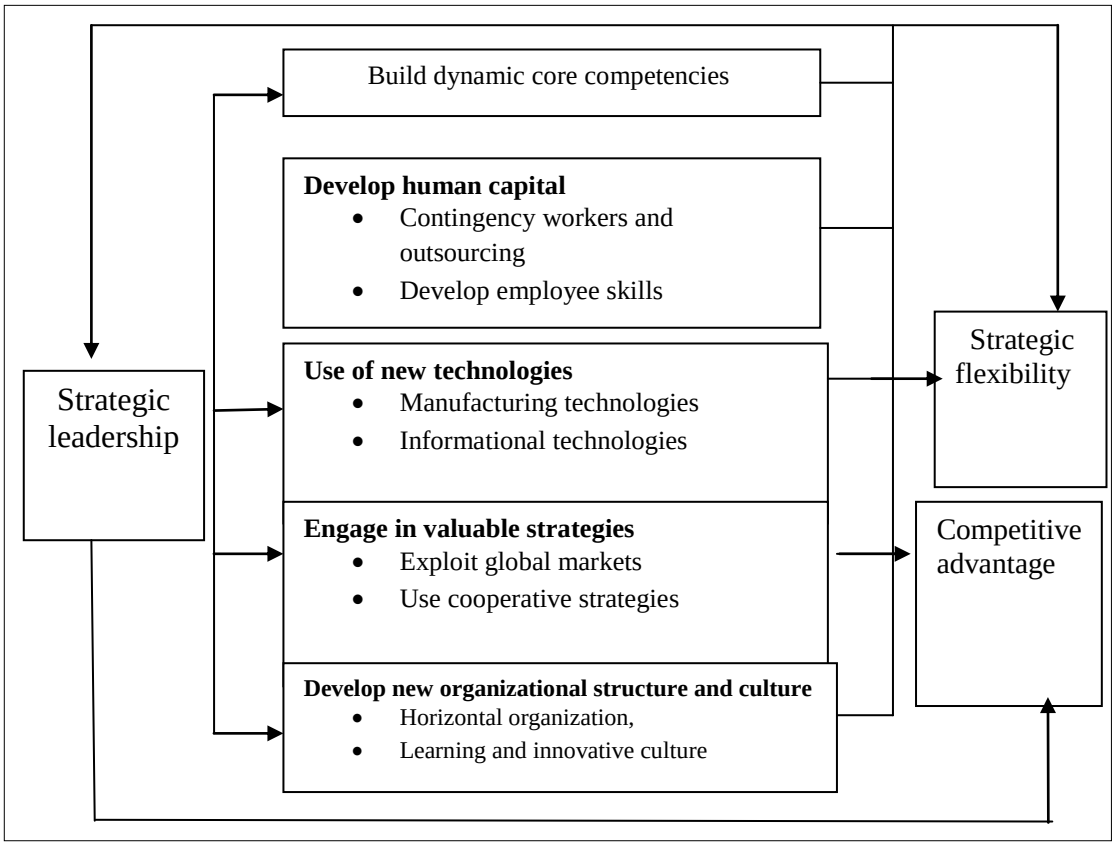


Figure 2.9: The Linkage between Strategic Flexibility and Competitive Advantage

Source: Michael *et al* (1988)

2.3.11 The Genesis of Competitive Advantage Theories

It is well recognized that all major schools of economic theory carries some elements of competitiveness, whose roots came into existence since Adam Smith's times (Smit, 2010; Martin, 2002; Krugman and Obstfeld, 2003). The first attempt to explain specialization in trade was made by Adam Smith in 1776 in his famous book, Wealth of Nations. Specialization is a central element of competitiveness, and Adam Smith made an excellent illustration of international division of labour using a pin manufacturing process of his time, in which the process was broken into eighteen distinct operations, each performed by different hands. Accordingly, output and productivity increase as compared to when all activities are performed by one man (Moon and Cho, 2002).

When this is extended at international level; specialization and exchange were responsible for much of economic progress. Specialization in the form of division of labour provides for economies of scale and differences in productivity across nations, hence the absolute advantage in production of a good (or service). Investment in capital and trade through increasing the size of the market, in turn, facilitates intended specialization and raises productivity and output growth.

The policy implication is that a country should specialize to export the product which it can produce using less inputs, and import the good which the trading partner produces using less inputs. Though Adam Smith is well respected as founding father of economics, the modern global complications cannot be explained by this simple version of trade theory (Cho and Moon, 2002). The theory of absolute advantage became a paradox in the sense that a country that had an absolute advantage in all

products or services it produces would not import because it could produce more efficiently (Smit, 2002). To advance on Smith's theory, David Ricardo in 1817 extended Smith's model in which he argued that even though a country has absolute advantage (disadvantage) in production of both good, it will still specialize in the production and export of the good in which it has more comparative advantage or less comparative disadvantage (Smit, 2010; Martin, 2002; Moon and Cho, 2002).

In other words, the superior country should specialize where it has greater absolute advantage and inferior country should specialize where it has less absolute disadvantage (Moon and Cho, 2002). In the classical school of thought, it is assumed that division of labour enables technological difference across countries, and within countries, factors of production are perfectly mobile within industries. Both theories, absolute advantage and comparative advantage, are criticized on the grounds that, in the modern world, countries create factors even though has less endowment in the factors of production (Porter, 1990; 2008).

The neoclassical school of thought was next, which assumes perfect information, constant returns to scale and full divisibility of all factors. The Heckscher-Ohlin model (HO) is also referred to as the factor-proportions model, and builds on Ricardo's model by incorporating two factors of production, labour and capital (Moon and Cho, 2002; Martin, 2002). The gist of the model is that the Ricardian model explained that trade arises due to differences in labour productivity without explaining on the sources of productivity differentials (Moon and Cho, 2002); and the model assumes that technologies are different across countries; contrary to H-0 model which predicts that technologies are similar. The HO model set forth that

comparative advantage is due to differences in factor endowments: the country will produce and export the good which require more intensive use of factor and import the good in which its factors are scarce.

Another important explanation of trade flow is the Factor Price Equalization Theorem, which states that free trade will equalize factors of production between countries. With free trade, the output of a comparative advantage good increase, thereby the demand of the abundant factor and its price increase; and the opposite will be for the scarce factors. In case one country has abundant capital and scarce labour; and another has abundant labour and scarce capital, the prices will move in opposite direction towards equalization. Though the theory is important to explain trade flow among nations, the pre-conditions for its effectiveness are lack of transport costs and trade barriers and identical technology (Moon and Cho, 2002); and its assessment against the theory of competitive advantage is that it does not take into account upgrading, factor creation, innovations and quality aspects which are critical in the contemporary trade pattern. In spite of these shortcomings, the theorem predicts reducing the income gap between rich and poor countries; and it recommends that the low income countries, which are labour abundant countries will benefit by adopting an open door policy against the capital intensive countries.

The Stolper-Samuelson Theorem is an extension of factor equalization theorem and links international trade with domestic distribution of income, and, as such, it advocates that there should be income re-distribution efforts as the scarce factors lose in trade liberation. Another variant is the Rybczynski Theorem which advocates that that at constant prices, an increase in one factor endowment will increase by a greater

proportion the output of the good intensive in that factor and reduce the output of the other (Moon and Cho, 2002).

The traditional and neo-classical theories were extended by new trade theories that explain intra-industry trade among similar countries (Amiti, 1998). These explain trade between industrialized countries by focusing on scale economies, product differentiation and imperfect competition as a basis of trade between industrialized countries (Martin, 2002). In this view, Krugman and Obstfeld (2003) developed models to show trade between identical countries is due to scale economies as the basis of international trade. Further, Amit (1998) pointed that the significance of intra-industry trade is explained by the fact that, in 1991, 55 percent of merchandise trade consisted of exchange of goods among OECD economies.

Given that competitiveness and rate of economic growth are related, it is worthwhile to point out that the Keynesian theory helps to provide a modern theory of economic growth. The theory differs to classical and neo-classical modes as regards the functioning of the market (Martin, 2002). The theory advocates that aggregate output is taken as the sum of consumption, investment, government spending, plus exports minus imports. The drivers of the system are the consumption function and the investment accelerator, together with export demand. In the Keynesian model, price adjustments might be slow, leading to adjustments in quantity; and markets are not necessarily in equilibrium.

In an attempt to explain how countries prosper, development economics theories were developed explaining that each stage of development has its own features and

conditions before economy moves to the next stage of development. One of the theories is the stage theory of development by Rostows which defines the societies to pass through the following stages: traditional, transitional, take-off, maturity and high mass consumption. The role of agriculture and investment is highly emphasized in this theory. Analysis of the theory shows that there are some elements of competitiveness as it recognizes movement from inferior to superior performance, thought the theory does not elaborate how competencies of firms can engineer such transformation process.

In addition, there have been attempts to analyze the role of technology on economic progress, as provided for under new growth theory or endogenous growth theory that incorporates technology into economic models as an endogenous variable (Martin, 2002). The key assumption is that accumulation of knowledge generates increasing returns, and knowledge and know-how are not disseminated instantly but need to be acquired which implies that companies should strive to acquire knowledge in order to gain monopoly rents. This view has much linkage to RBV due to recognition by new trade theory on the importance of human capital, a key component of RBV. Further, PDM's factor conditions has linkage to this economic theory as the PDM recognize the need to invest in advanced factors, and the technological progress and knowledge as set forth in the new growth theory reinforce each other.

The trade theories explained above does not explain why some countries prosper and others do not, despite having less endowment in resources. In other words, the traditional and new trade theories do not explore the possibility of a nation's prosperity even though it has scarce resources, which in the contemporary world it is

possible. To cover this gap, business strategy economics helps to explains much of trade in the contemporary world (Martin, 2002), for instance, an important breakthrough happened in 1990 when Michael Porter introduced the Diamond Model (Moon and Cho, 2002) as the most influential theory of competitive advantage (Porter, 1990). The business strategists emphasize that; firms must continually improve operational effectiveness in their activities while simultaneously pursuing distinctive rather than imitative strategic positions.

2.4 The Empirical Literature Review

2.4.1 The Global Dynamics of the Textile Industry

The textile industry has been one of the leading industries in industrialization of East Asia. This is evidenced by dramatic shift of concentration of production and trade of textiles and apparel from developed countries to the new emerging Big Three (Hong Kong, North Korea and South Korea) from 1950s up to 2010s; and migration to South East Asia and China in 1980s-1990s. Such emerging trends require a nation to define its role in the value network (Pinar and Trapp, 2008) for its firms and industries to compete.

This is supported by the fact that global textile industry has undergone upheaval and witnessed the overhaul of the old value networks and creation of new ones (Pinar and Trapp, 2008). For instance, Zara in Spain has developed an extraordinary value system that works on holistic approach rather than on piecemeal focus on ingredient activities, and within 16 days it is able to put the latest fashion in the high street shelves. The same process takes months to accomplish in other countries.

The global trade dynamics of the textile industry's competitive advantage is also discussed in the context of market access as determined by global trade agreements such as General Agreement on Trade and Tariff (GATT). The GATT has been a key multilateral trade regime to liberalize trade by discouraging use of trade restrictive instruments such as export subsidies and quota. Since adoption of GATT, developing countries have been adopting import substitution strategies to protect domestic industries; and in return developed countries have adopted burdensome NTB to ban imports of textiles and apparel products from developing countries (Lim, 2003).

Faced with these challenges, in 1974, the Mult-Fiber Agreement (MFA) was adopted and continued until 1990s. The MFA exempted the textiles and garment industry from GATT principles by allowing nations to impose bilateral quotas on imports of various categories of textiles and garment products (Danish, 2005; Verma, 2012). It was adopted to protect industrialized products from cheap imports from developing countries caused by comparatively low labour costs.

During the Uruguay Round, it was agreed the MFA be phased out in steps through implementation of the Agreement on Clothing and Textiles (ATC). The MFA was therefore completely phased out in January 2005: the renewed international efforts in promoting trade in textiles. In addition, the regional trade agreements that discriminate against non-members including the European Union (EU), the North American Free Trade Agreement (NAFTA), East African Community (EAC) and Southern Africa Development Community (SADC) have been significant in influencing trade. While these multi-lateral and regional trade agreements promotes trade by addressing trade restrictions, the trade pattern has been much explained by

price and tariffs characteristics that determine comparative advantage; and have ignored attributes of competitive advantage which are the drivers of trade pattern in the contemporary global trade. It follows that, a lot remains to be done to address how competitive strategies can supplement firm's efforts to produce and export competitive products in the environment where industries are protected and existence of various NTBs. This shift is well emphasized by Pinar and Trapp (2008) who gives an example of Turkey; that has adopted branding of its high quality cotton and develop an ingredient branding strategy as differentiation strategies. Altogether, this demands a paradigm shift from current global agenda of competition.

There are evidences to hold this true. The emerging global trend reinforces counties to specialize and produce competitive products and services in order to win the market. For instance, Germany and Switzerland are world leaders in textile machinery and Germany specializes on dying chemical; the US produces raw cotton; and China is the major garment producer. Taking an example of China, it specializes on the vast opportunities in the industry especially on garment production; its success has resulted into loses in other nations (Pinar and Trapp, 2008). China underwent substantial structural transformation from 1980s to 1990s, with an exceptional growth of 131 percent (Eve *et al.,* 2006). The textile exports to the world amounted to approximately US$ 34 billion in 2004, which represented 17% of the world total textile exports and and 5.6% of China's commodity exports, and ranked 8th among the leading global exporters (Eve *et al.,* 2006). The industry is highly competitive in international terms due to enormous manufacturing capability supported by an abundant pool of inexpensive labour force and abundant supply of raw materials.

Another example is Bangladesh where the garment industry started with the *DeshDaewoo* initiative (Hosono, 2013). While in other developing countries most governments are rigid and non-flexible in adopting innovative ideas and strategies from the private sector, the government of Bangladesh was attentive to the ideas. The government invested in infrastructure and Export Processing Zones, adopted policies for the free importation of machines, bonded warehouses and back-to-back letter of credit, followed by industrial policies such as the New Industrial Policy (1982), Revised Industrial Policy (1986), Credit Facilities (1991); and acceded to Multi-Fiber-Agreement (1985) to benefit from its quotas as well as preferential access to the EU market (Hosono, 2013). This support the PDM emphasize on the role of government in competitive advantage.

2.4.2 The Empirical Studies on Competitive Advantage

There has been a growing interest among researchers to study the influence of the determinants of the Porter's model to competitiveness (Salvador, 2006; Maurizio, 1997; Bakan and Fatma, 2012; Kennedy *et al* 2009; Grant, 1991; Gowrie *et al* 2012). In general, the studies on competitive advantage have focused at national, industry and firm levels; and research methodology has been inside-out and outside-in orientation to explore sources of competitive advantage. For instance, several researchers have been interested on developing integrated conceptual framework. Sultan (2007) developed an integrated conceptual framework using constructs embodied under PDM, Porter's five forces and ICT, and found that the PDM, PFF, generic strategies and ICT are related and are significant in determining competitive advantage of Small and Medium Enterprises (SMEs) working in processing natural

stones in Italy, Jordan and Turkey. The major conclusion is the importance of updating and simplifying the laws and regulations, upgrading the advanced and specialized infrastructure, promoting the entrepreneurship and upgrading personnel, establishment of credit institutions to support the SMEs and promoting e-business.

Other studies have focused on core competency as a source of competitive advantage (Adjani, 2008; Adour *et al*, 2011). Adour *et al* (2011) examined the impact of core competencies on competitive advantages and success in Istanbul tourist companies; and found that core competencies, competitive advantages and company success have significant relationship implying that firms should invest in efforts to upgrade the competencies of their personnel. Another study done by Adjani (2008), empirically tested the relationships between core competence, competitive advantage and competitiveness using a case study of Medium Size Firms in India and found that core competence has not been fully introduced in most of the organizations, and that core competence at the level of technology and differentiations, and time advantage are key factors in the process of firm to achieve sustainable competitive advantage, which in turn leads to corporate success. The process of technology acquisition, assimilation and implementation processes are aided by core competence for improved organizational performance.

Further, Balkan and Fatima (2012) empirically tested the Porter's diamond model for the firms in the city of Kahramanmaras and found that the determinants of the model have significant relationship with firm's competitive advantage. On the other hand, in the context of textiles industry in Korea, Byoungho and Moon (2006) modified PDM by including Multinational Corporations and found the PDM exerts significant

influence on competitiveness of textile industry. Chi-Keung *et al* 2009 used factor analysis to explore the determinants of competitiveness at micro level for China's textiles and apparel industry. The conceptual model comprised of three major categories of internal and external dimensions on productivity, demand side and supply side factors. The study found that government policies and related industry infrastructure are the most important determinants of competitiveness in the textile and apparel industries, followed by domestic demand.

On the other hand, additional variables that affect Chinese competitiveness are labour costs, foreign exchange, FDI, international barriers and Chinese reforms. Focus on the comprehensive factors on competitive advantage has enabled China to become a dominant exporter of textiles and apparel products in attracting manufacturing facilities from many different sectors globally (Biselli, 2009).

Further to this study, Eve *et al* 2006 used the gravity model to study the determinants of China's exports whereby the value of exports grew from USD 7.22 billion in 1990 to USD 34 Billion in 2004. The results showed that the growth was attributed to abundance of raw material and cheap labour; and the real GDP, real exchange rate, common membership of free trade agreement for bilateral trading partners, per capita GDP and population growth rate of the imports had statistical significance on the China's textile exports. Though this study is relevant in determining flow of trade, it ignored the role of innovation and other competitiveness variables in determining the growing trade. Furthermore, Chi and Kilduff (2006) used Balassa's Revealed Comparative Advantage method and found that China continues to build a strong position in labor-intensive products but is experiencing a growing challenge from

lower income countries. The study did not capture the competitiveness variables that make China a dominant player in the industry.

Another dimension which has attracted attention in empirical research is the degree of innovation in a particular industry; as firms commercialize their research and development results and create unique values. This dimension holds that competitive economy is the one in which the aggregate innovative actions of individual firms combined, make a nation competitive. To contribute on this thinking, Charttirot *et al* 2013 used SEM techniques to study factors affecting innovative capacity of Thai Textile and clothing industries using a conceptual model embodying internal factors (knowledge management, absorptive capacity and product development); and external factors (innovative source, innovative type, innovative system actors and innovative support). The study found innovation capacity of entrepreneurs in the textile and clothing industry of Thailand was positively influenced by both internal and external factors; and connection with external sources of innovation such as Universities and Research Centres helps SMEs to attain much needed innovative capacity necessary for competitive advantage. Assessment of this study shows that; while innovation is a potential source of competitive advantage, it is narrow in scope as it could not explore further the internal capabilities of the firm as determined by resources and capabilities of the firm, as well as external dimensions of the firm determined by the cost and differentiation.

Competitive advantage is also assessed with regard to supply chain management (Parrish *et al* 2008, Verma, 2012; Mohammad (2005). In this context, Mohammad (2005) studied Thai textile and garment industry using SEM technique and found

that supply chain enablers in terms of IT capabilities, supply chain capabilities, supply chain integration and strategy all lead to superior firm performance. According to Parrish *et al* 2008; the US firms drive majority of innovation in supply chain in research and development, marketing, and customer service. The integrative framework of value chain comprises of interrelated networks such as the raw materials network, component network, production network, export network and marketing network. Figure 2.10 shows the structure of global textile and apparel value chain.

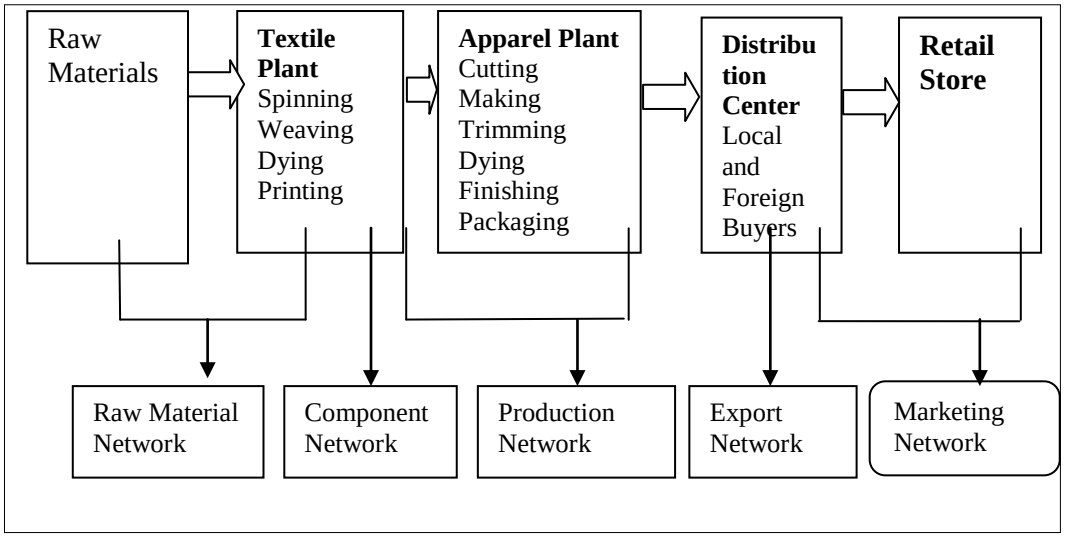


Figure 2.10: The Global Textiles and Apparel Value Chain
Source: Mohammed and Yoshi (2012)

For proper management of the value chain, vertical integration in terms of both downstream and upstream activities is important as it has significant impact to the cost, differentiation and other strategies. According to Porter (1990), for the firm to upgrade the value chain, it should consider four types of competitive scopes namely segment scope (scope of product varieties), vertical scope (the extent of in-house activities), geographic scope (the range of regions and countries to operate) and industry scope (the range of related industries to operate).

The role of value chains in particular the buyer-driven and producer-driven value chains have implication to industry competitiveness. The buyer driven chains do not make the products, it only design and/market the products; whereas the producer value chains manufacturers advanced products like aircraft, automobiles and computers; and they are able to control both backward and forward linkages. The buyer-driven value chains are characterized by globally decentralized factory systems and determine what will be produced because they have control on manufacturing processes and much profit accrue at each stage of value chains (Gary and Olga, 2013).

Taking all these into consideration, an apparel industry possesses many characteristics of buyer driven elements; and can be broken down into five distinctive parts namely raw materials including synthetic fibres, provision of components such as yarns and fabrics; production networks made up of garment factories, export channels and marketing network at the retail level. Figure 2.11 shows the textile and apparel value chain starts with the raw material processing, component processing, production and finally, the marketing chains.

In exploring the role of quality to competitive advantage, Lakhal (2009) used SEM technique to study the relationship between quality, competitive advantage, and organizational performance. He adopted three hypotheses: (i) Firms with high levels of quality products will have high levels of organizational performance; (ii) Firms with high levels of quality products will have high levels of competitive advantage, and, (iii) the higher the level of competitive advantage, the higher the level of organizational performance. The model was found to have good fit indices; all

hypotheses supported, and concluded that quality produce competitive advantage to the organization, which in turn, lead to improved organizational performance. However, this work lacked a construct to show the internal sources of quality and competitive advantage.

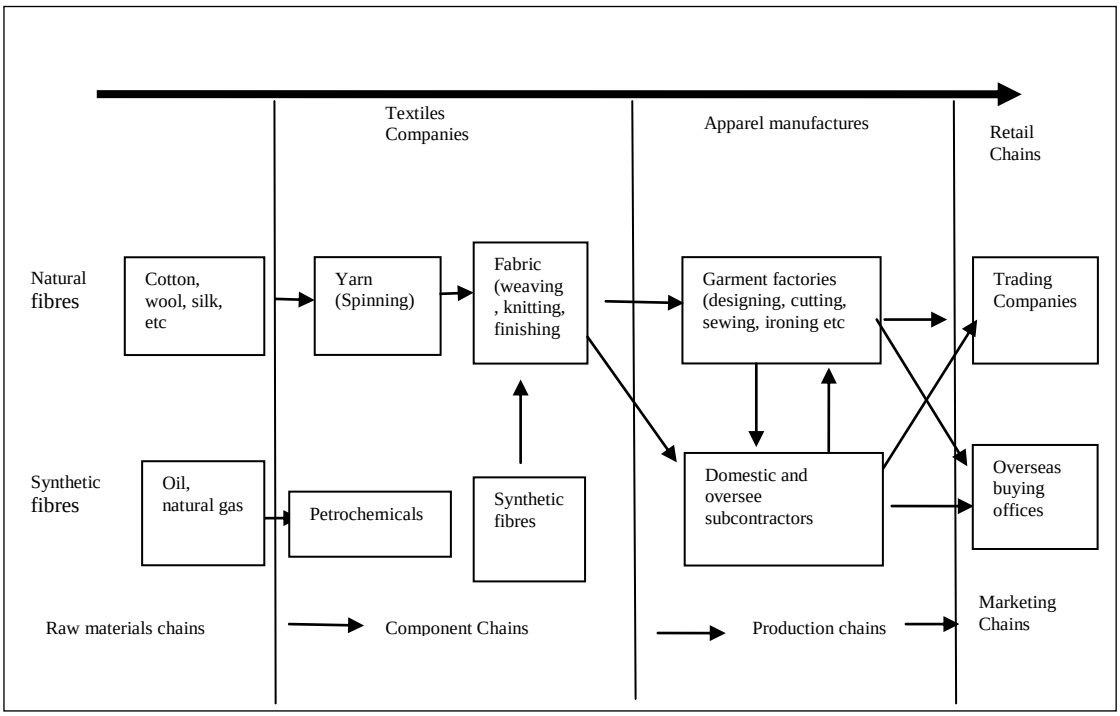


Figure 2.11: The Textiles and Apparel Value Chain

Source: Gary et al 2003

Having demonstrated the empirical studies that shows the significance of adopting competitive strategies, it is worthwhile to discuss applicability of competitiveness framework within national and regional setting, taking a case study of European Union (EU), Japan and Asia. The purpose is to build a strong case that such competitiveness frameworks are a necessary policy tool and strategic elements for the firms. To start with, according to European Commission (2014), Italy, France, UK, Germany and Spain are the largest producers of textile and apparel products. On other hand, Italy, Greece and Portugal, Romania, Bulgaria, Poland, Spain and France

specialize on clothing production and trade; while UK, Sweden, Austria, Germany, Belgium and the Netherlands contribute relatively more to textile production. The industry is one of competitive industry in Europe with a turnover of Euro 200 billion, employment of 2 million people and an average share of textiles and clothing to total manufacturing value added of 4 percent. The PDM has been found to be relevant in explaining sources of competitive advantage for German's textiles and apparel industry encompassing high-quality cotton, wool and synthetic fabrics, women's skirts, dyes, synthetic fibres, sewing machine needles, and a wide range of textile machines (Grant, 1991).

Studying the dynamics underlying competitiveness is therefore considered to be important in strategy formulation, as a number of firms have collapsed due to inability to adopt competitive strategies (Grant, 1991; Parrish *et al*, 2008; Maurizio, 1997; Martinuzzi *et al,* 2011). In US alone, it is estimated that over 500 plants closed since 1997, mainly attributed to high competition arising from low costs imports. Accordingly, the imports from low cost producing countries have rendered the textile and apparel industry in EU and US less competitive (Parrish *et al*, 2008), likewise in EU (Maurizo, 1997). The intensity of competition has ultimately driven firms out of business leading to secular decline of the exports as the firms could not compete with cheap textiles from Asian countries whose environmental standards and labour costs are minimum (Maurizio, 1997; Prunea, 2011; Parrish *et al*, 2008). As a result, the share of exports of EU to developing countries is twice as much as EU's imports from Asian countries; and the region has experienced a negative trade balance in textiles since 1987 as a result of changes on competitiveness parameters.

Given that low cost strategy is not realistic, the European firms have directed their efforts in three main areas. In the first place, firms have moved the source of competitiveness away from low cost, towards other more sophisticated factors, such as design, fashion, new materials etc.

Secondly, they have invested heavily in research and development, and adoption of new production techniques that aim at reducing the incidence of labour cost. Third, firms have positioned their activities in foreign locations where raw materials are cheap (Maurizio, 1997), as Harron *et al* (1999) argues:

> "Pressures to remain cost-competitive have led many clothing firms based in industrial countries to relocate their production activities off-shore. Another response has been centred on regional or bilateral trade agreements to allow textiles produced in capital-intensive industries in the industrial countries be processed by labour-intensive assembly operations in developing countries in industrial country poles".

The PDM in EU is explained as follows. The factor conditions of the textiles and clothing industry is quite advanced, represented by human resources (quantity, quality, and knowledge), capital resources and infrastructure which include transportation system, communications, health care and cultural conditions (Prunea, 2011). Factor conditions are classified into basic factors (human resources, unskilled labour etc); modern factors (modern infrastructure, trained personnel etc), general factors (transport system, educated workforce with high school knowledge, etc) and specialized factors to cater for the needs of the specific industry. Accordingly, the

textiles and clothing industry in the EU utilizes the basic factors given the needs of the industry.

As regards the demand structure of EU products, it is quite advanced, determined by positive quality mark up (EU, 2014); and influenced by the lifestyles, patterns and colours of textile goods, fashion and changing consumption preferences (Maurizio, 1997; Prunea 2011). This composition in turn is determined by segment structure of demand and sophisticated and demanding buyers, which in turn changes the character and priorities of firms. In Italy, the textile companies are leaders in the top end, fashion-led segments. The demand pattern has shaped the Italian textile industry since the country has the highest per capita rates of spending on clothing as a proportion of total household spending in the EU (9.3% in 1990).

As predicted by the PDM, the sophisticated and demanding buyers has also helped to transform the EU textile and apparel industry as the firms are at constant pressure to meet the customer's standards in terms of product features, quality and service. The demand pattern is rather advanced as compared to the US market which is less able to respond to the needs of the local market (EU, 2014). The major reason is that, the close proximity between the textile producers shape the demand, and this point is cemented by Maurizio (1997), '….in Italy, the close relationship between clothing companies and textile companies allows collaboration in the development of new fabrics, colours and models which in turn underlies the success of their competitive strategies', enhanced by sophisticated Italian customers.

In addition, the demand conditions are determined by the rate of demand size and growth pattern. He further argue that, 'growth of demand play an important role in

determining the rate of investment, because rapid domestic growth permits a nation's firms to adopt new technologies faster, with less to fear from making their technologies obsolete'.

As regards firm strategy, structure and rivalry, competitive strategy used by EU is represented by textile manufacturer's collaboration with the fashion designers, resulting in the creation of materials and new designs (Prunea, 2011). The northern EU countries focus on niche markets and they are able to sell to both internal and external markets (EC, 2014). According to EC (2012), EU firms do not supply to lower and middle parts of the market given that cost competition favours third countries and the industry is no longer competitive because of fragmentation of the industry.

The related and supporting industries provide important linkages that help firms to upgrade their products because local-based suppliers provide inter-dependencies between firms and their suppliers, thus allowing a better co-ordination and integration of related activities (Porter, 1990). In addition, the significance of related and supporting industries on competitive advantage arises due to tight cooperation between large suppliers and companies who help companies to gain access to information on new technologies and methods (Prunea, 2011). According to Porter (1990), the ability of a nation's firms to exploit linkages with home-based suppliers and customers is key ingredient for the nation's competitive position in an industry. This phenomenon is evident in Europe, as there are competitive firms producing textiles machinery and chemicals thus providing competitive base for the local SMEs.

Another aspect of related and supporting industries is inter-firm division of labour among small firms which can be a source of competitive advantage, as it is based on sub-contracting of specialism within industrial districts. The industrial districts are a typical competitive landscape of Europe, where small firms share technologies and skills among themselves, and thus external economies of scale are paramount. Empirical evidence has shown that competing in isolation is a source of competitive disadvantage; firms need to forge partnership models to become ever competitive. In contrast, the European firms have close working relationships thus allowing them to share information, co-ordinate their activities and compete externally as a single system even though it is made up of many small firms.

Competitive advantage in one supplier industries has spill over effects to other industries and scale up innovations and information flow: for instance, Swiss success in pharmaceutical industry was connected to previous success in the dye industry; and Japanese success in facsimile industry was attributed to the success in the copiers.

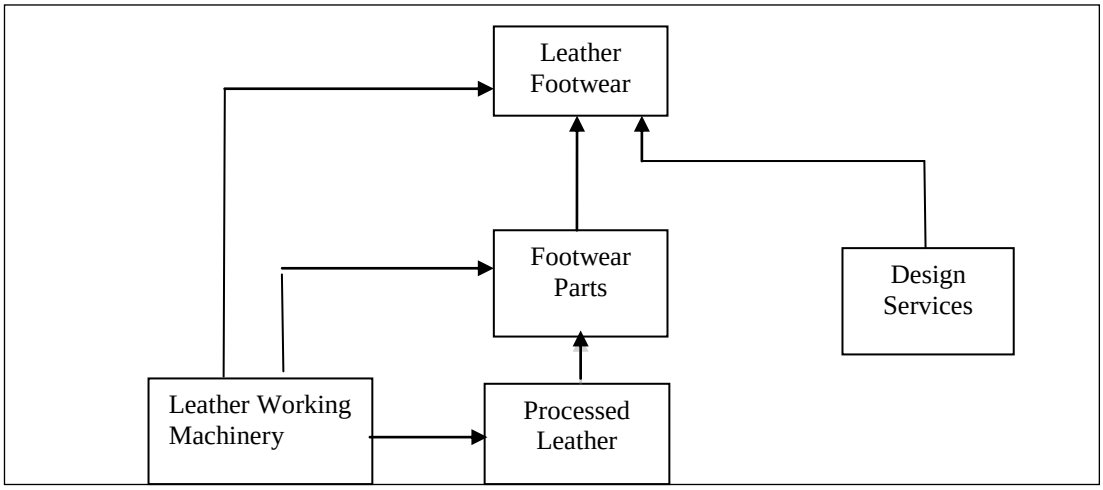


Figure 2.12: Italian Supplier Industries for the Footwear Industry
Source: Porter, (1990)

The technological leadership by the U.S. semiconductor industry during 1980s provided the basis for U.S. success in computers and several other technically advanced electronic products. Japanese competitive advantage in textiles and apparel products emanates from related industries such as silk fabrics, carbon fibres, water jet weaving machine and long filament continuous fibres. Italian success in footwear industry was attributed to existence of leather footwear machinery, footwear parts and processed leather industries as shown in Figure 2.12.

Another example is Japan's success in long filament synthetic textile fibres that reflects a long tradition of success in silk. The carbon fibres industry employ technology closely related to synthetic filament fibres. The Japanese firms are leaders in water jet weaving machines used to weave long filament synthetic fibres into synthetic weaves as shown in Figure 2.13.

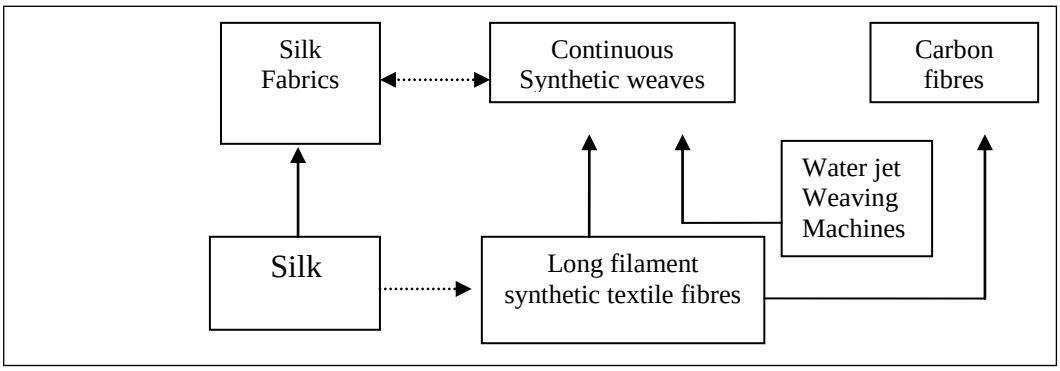


Figure 2.13: Filament Synthetic Fibres
Source: Porter, (1990)

Broke lines refer to related industries, solid lines refers to supplier relationship.

The nature of rivalry has also been key in determining the success of the industry in EU. Porter (1990) argues thus: 'a group of capable domestic rivals generate a fertile environment for creating and sustaining competitive advantage that is difficult to

replicate through competition with foreign rivals'. Rivalry is a major policy recommendation of trade economics as it forces firms to upgrade their competitive advantage, or else go out of business. Further, it creates pressures to improve and innovate, and may lead firms to attain sustainable competitive advantage since any particular source of competitive advantage may not endure for long periods as rivals are likely to imitate.

In Europe, the industrial concentration of producers has helped to create conducive conditions for firms to gain competitive advantage as a result of mixture of collaboration and competition within and across networks. It is interesting to note that there are two forms of rivalry for textiles firms in Europe, Maurizio (1997) argues that:

> '…..within the textile districts, competition takes place in two forms: between similar firms within the networks ("lateral competition"); and between two networks as entities ("inter-network rivalry"). Even though the lateral competition rarely reaches levels above which it can compromise and destabilize the network itself, the inter-network rivalry is often fierce, because of many overlaps existing, both in terms of products and market segments".

As regards the Asian region, the global textile industry and trade has followed the following stages: embryo, early export of apparel, more advanced production of fabric and apparel, golden age, full maturity, and significant decline (Lim, 2003). In fact, the apparent loss of competitiveness of the Asian firms raised several questions regarding the competitive strength of the East and Southeast Asian model (Rajiv and

Doren, 2002). Further, competitiveness of Asian enterprises is affected by the firm's human resource orientation, extent of technological innovation, organizational structure, government industrial policy, access to capital, as well as the state of the financial market. It is also affected by the firm's human resource, extent of technological innovation, organizational structure, government industrial policy, access to capital and state of the financial market.

To conclude, this section has empirically demonstrated that to survive in competitive environment, cost leadership strategy is not longer viable for the textile industry. Firms need to specialize in either high-tech industrial textiles or in high-end fashion markets (Martinuzzi *et al,* 2011); and adopt a unique value chain system that is distinct to other countries (Pinar and Trapp, 2008). Further, the general assessment is that the textile and apparel industry in Tanzania should strategize and reposition; and this should be a top priority for the firm and industry as whole.

2.4.3 Empirical Studies for Tanzania

There have been scanty studies on competitiveness, including those that focus on the role of productivity in manufacturing performance (Mbele, 2005; Wangwe *et al* 2014; Ndulu and Semboja, 1994; Kahyarara, 2010). Kahyarara (2010) pointed out that the overall productivity trends in Tanzania go parallel with three phases since the independency: a period of expansion (1961-1980), a period of collapse (1981-1990), and a period of adjustment, privatization and re-structuring (1991-2000s). It is empirically shown that the performance of the textile industry has been discouraging: attributed to domestic structural constraints, unfavourable macroeconomic policies and low technological base (Semboja and Kweka, 1998). Evidently, for the industry

to contribute on growth agenda there is need of a clear policy, development of a model to show critical factors for competitive advantage, determination of factors to capitalize on competitive advantage, and adoption of policies that goes beyond product engineering to commercial innovations.

It is empirically documented that, the employees of the textile and apparel industry lack formal training and low investment to upgrade quality thus hindering the competitive potential of the industry (Wangwe *et al* 2014). Further, inadequate resources are allocated to research and development due to ignorance of the role of research and development in the improvement of quality products, upgrading and sales. The role of technological capability and FDI has been singled out to be key factors for underperformance of the textile industry (Kweka and Semboja, 1998).

Market liberalization negatively affected the performance of the textile and apparel industry because of low adoption of process engineering capabilities in which the firms were not able to put in place the quality control systems. The second reason of such failure is low product engineering capabilities as the domestic firms did not have incentives to upgrade their technologies to produce quality products and third, inadequate industrial engineering capabilities to train the staff (Kweka and Semboja, 1998). The key aspects that were considered logically falls under the related and supporting industries pillar of the PDM; in which the linkages among the R&D institutions were considered weak; a growing concern for competitive advantage. Further, as noted by Tang (2014), the key factors affecting textile-apparel value chain in Tanzania are deficient facilities, unskilled workers, weak industrial base,

cumbersome export process and daunting hurdles for apparel makers to break into the international market.

The study by President's Office Planning Commission (POPC), 2009 highlighted the key competitiveness challenges the manufacturing sector is facing. The share of manufacturing value added in GDP during 1995-2005 ranked at bottom and more that 60 percent of products were resources based products; and declined to 50 percent in 2004-2006. Tanzania industries, including textile and apparel, recorded capacity utilization from 36.6 in 2005 to 42.2 percent in 2006. The study pointed out several factors which, for the purpose of this study, can be grouped into factor conditions and demand conditions. The factor conditions are underperforming: (i) access to finance is a major constrain in Tanzania, (ii) The quality of workforce is a serious setback, whereas 20 percent of workers in Kenya and Uganda have only primary education, about 43 percent have only primary education in Tanzania, and (iii) there is low capacity utilization associated with infrastructure constraints such as electricity, inadequate water supply, poor technology and inadequate transport and communication services. The industrial sector is inward oriented; around 70 percent is consumed within the country as a result of low competitive advantage.

As regards demand conditions, the Tanzanian manufacturing enterprises are 18 percent less likely to export and export 4.7 percent of their output. Further, the Tanzania industries have difficulties in the area of market access related to the compliance costs, insufficient facilities, high costs of testing certification and lack of financial and technical assistance.

Another useful study was done by Mbele (2005). The study established that hard and soft technology has a big role to enhance competitiveness, and the role of Information and Communication Technology (ICT) has made trade based on endowments less important. The R & D institutions have limited resources, and Tanzania lags behind in Technology creation in which only 0.2 % of GDP is allocated to R&D. The study pointed out that, investment in physical capital, human resources, financial support institutions, hard and soft infrastructure key dimensions necessary for high growth and productivity.

As regards trade performance, the low export performance of the textile and apparel industry is complicated by stringent standard requirement on quality, delivery time, and certification. The EAC (2015) discuss challenges that EAC economies face in exporting to AGOA that includes: (i) the transport costs to the export markets such as AGOA is high, (ii) high transaction costs due to inadequate infrastructure, appropriate information and communication technologies, (iii) stringent Sanitary and Phytosanitary (SPS) measures, (iv) the stringent rules of origin, (v) narrow export baskets, (v) preference erosion as a result of global competitive countries. These challenges are evident in the textile and apparel industry.

Furthermore, the industry mainly produces traditional woven fabrics such as Kanga and Kitenge to serve local and regional consumers (Tang, 2014). Although, the market conditions are favourable as the population in the region is large and demand for the textiles is a basic need; the main threat for the fabric makers is the import of cheap second-hand clothes. The factor conditions based on technological upgrading

is still very low as raw material supply is a bottleneck to the domestic industries; most of the apparel industries imports their inputs.

Table 2.1: The Plight of Tanzania in PDM

Factor Conditions	Demand Conditions
1. **The labour force** does not have attributes to be classified as advanced: • Level of education is low • Availability of industry specific skills • Low Work morale and level of productivity, and • Government regulatory impact on skills transfer. • Availability of qualified human resources is a key impediment 2. **Capital Resources** is not favourable: • High and unstable interest rates normally between 20-30% • Low domestic savings • The banking system is inadequate, caused by weak monitoring of banking operators; • Limited differentiation in financial products: products are limited for manufactures, long term financing, industrial licensing and export finance. • High dependence on foreign funding • Weak investment incentives and business environment **3. Physical resources** • Tanzania has abundance of arable land • Well endowment of mineral resources • Many unexploited tourism resources **4. Infrastructure** • Poor state of infrastructure • Limited fully serviced industrial parks • High electricity costs • The transport network is inadequate • Unreliable telecommunication services • Water supply is relatively stable • Weak social infrastructure **5. Knowledge resources** • Weak institution and knowledge resource • Limited network and clusters; • Limited information flow • Limited private sector involvement in R&D.	**Main elements for the textile and apparel industry:** • The size of domestic market is inadequate • Export opportunities are inadequate • Structure of domestic demand is poor • Level of market differentiation and saturation is inadequate • Government demand for the industry is a concern • HIV/AIDS is a big concern **Action points to reinforce demand conditions:** • Protecting infant industries • Control of unofficial trade • Improve collaboration with WTO on anti-dumping measures • Creation of export culture • Elimination of intra-regional trade barriers • Reduction of red tape for export transactions • Elimination of production subsidies • Creation of storage facilities • Creation of marketing and distribution infrastructure. **Key concern for investors:** • Import control/dumping and custom control • Civil service hostile and lack of market driven economy • Purchasing power of domestic market

Source: MIT, 2001

As implied under the PDM, the government's role is important in attaining competitive advantage through implementation of the Roadmap for the Improvement of the Investment Climate that aims at streamlining laws and regulations and reducing the cost of investing in Tanzania (Prime Minister's Office, 2009). The government set up a Textile Development Unit within the Ministry of Industry and Trade to help the existing textile and apparel industries become more vibrant and to attract foreign direct investment (Tang, 2014). In addition, the Ministry of Industry, Trade and Marketing benchmarked the industry using the PDM to assess the competitive advantage of the manufacturing industry, as shown in Table 2.1.

Table 2.2: The Plight of Tanzania in PDM (Continued).

Firm Strategy, Structure and Rivalry	Related and Supporting Industries
• The Tanzanian industries focus more on domestic market; • Dependency on government involvement in corporate governance; • Corporate governance is carried on using autocratic systems with less interaction between management and employees; • Limited domestic rivalry because of long time socialist ideologies; • Limited employee performance incentives; • Limited cooperation between industrial enterprises; • The number of manufacturers is limited, hence low rivalry; and • Unnecessary rivalry between large enterprises and SMEs. **The proposed action points:** • Strengthen measures for private sector development; • Develop mechanism for private sector interface with the government; • Minimum intervention to the market; • Cluster cooperation to scale up utilization of domestic market opportunities. **The Role of Government** • The Government interface with the private sector has not led to improved competitiveness platform. • The Government continues to put emphasize on regulatory rather than facilitating role; • The Government has not adequately increased performance in the DB indicators: ranked 131st in DB, 2015.	In Tanzania, the related and supporting industries are under-developed, mainly due to: • Raw materials and other intermediate goods are imported • Long lead time to shipping deliveries, hence working capital is tied up; • Most domestic manufactures lack foreign partner companies – most are not linked to transnational corporations of competitive firms; • Limited access to technology and information; • Production activities are vertically integrated, inputs are provided through imports; • The value chains are comprised of individual manufactures going up the entire value chain up to finished products; • Domestic supplies provide low value products related on resource based activities; • Lack of quality extension services; • Low drive in clustering and cooperation in the value chain; • Low drive in cluster formation; • Though private sector firms are members of industry associations, still many firms hesitate to participate in specific industry associations or forum because of limited trust, transparency and credibility. The role of these associations is now becoming stronger, such as Tanzania National Business Council, Tanzania Private Sector Foundation, Confederation of Tanzania Industries, and Tanzania Horticulture Associations; to mention the few.

• Limited capacity to implement policy and investment facilitation	

Source: MIT, (2001)

With respect to applicability of the PFF, there have been scanty studies done for textile and apparel industry. It is noted that a study done by Elisante (2005) shed light on applicability of PFF for the banking industry in Tanzania. The study benchmarked the performance of the banking industry in Tanzania comprising of 22 full-fledged banks, 5 regional unit banks, 5 financial institutions and 102 bureau de change operators. The qualitative approach was used to find out the strength of a particular force.

The results indicated that the threat of new entry was not favourable, bargaining power of suppliers was favourable, with a positive sign; rivalry among the existing banks was not favourable, with a negative sign; bargaining power of customers was not favourable, with a negative sign; and the threat of substitute products was favourable, with a positive sign. However, though the analysis is useful as it provides an understanding of five forces as regards the banking industry, the analysis did not use rigorous statistical analysis, rather judgemental approaches.

2.4.4 Policies Review for Competitiveness

The Government of Tanzania recognizes the importance of the manufacturing sector in growth and poverty reduction since independency (MIT, 1996; 2001; Uledi, 2014). The sector has potential linkage effects such as input-output linkages with other sectors of the economy; and induced benefits of multiplier effect through expenditures. From 1974 onwards, the performance of the manufacturing industries including textiles was generally poor excavated by lack of capital goods, and this

made the Government to adopt in 1975, the Basic Industrialization Strategy (BIT). The strategy aimed at increasing value addition to reduce import dependency, and promotion of South-South trade. In this period, the Textile Corporation was formed. Unfortunately, industrial growth deteriorated in which between 1975 and 1981, growth rate was about 0.6 per cent; and between 1981 and 1985, the growth rate was - 3.9 per cent caused by external shocks and internal constraints. The BIS was replaced by the Sustainable Industrialization Development Policy (SIDP) whose purpose was to phase out the government's involvement in direct investment in productive activities and let the private sector become the main player. The major purpose of the SIDP was to lay down the framework on broad guidelines on key factors to attain industrialization (MIT, 1996).

The SIDP was envisaged to be implemented in three phases: phase 1 started in 1996-2000; and focused on rehabilitation and improving capacity utilization and improving the enabling environment; while phase 2 focused on Medium Term Priority Programme 2000-2010 which focused on creation of new capacities by promoting exports through use of Export Processing Zones and promotion of intermediate industries. Phase 3 focused on providing for full fledged investments in basic capital goods infrastructure. To scale up industrial growth, the Government adopted Five Years Development Plans (FYDP). The SIDP views the industrial sector in holistic and systematic manner, and accepts that constraints, competitive issues and opportunities are complex (MIT, 2011). The first FYDP focused on addressing binding constraints to growth, phase 2 focuses on industrialization as main pillar of social-economic development; while phase 3 focuses on improving competitiveness of the manufacturing sector.

In 2011, the government benchmarked the manufacturing sector using the PDM in which policy options to priotize include competitive infrastructure consistency in tax policy, availability and cost of medium term financing, streamlining procedures for international trade including curbing illegal imports (MIT, 2011). All these demonstrate the strong commitment of the government, though substantial work need to be done on firm specific factors. Further, there is lack of a coherent and actionable strategy for the stakeholders to participate proactively in implementation of SIDP. As a result, the manufacturing industries have not contributed significantly to the envisaged growth and prosperity.

2.4.5 Research Gaps on Competitive Advantage

The literature reviewed shows that there are diverging views as regards what determines competitiveness, and there is also scanty comprehensive competitiveness framework on the determinants of competitiveness for Tanzania. The modern competitive advantage models should encompass both internal dynamics (micro factors) and macro level factors, taking into account inside and outside view of the sources of competitive advantage.

This study contributes to addressing knowledge gap by developing such comprehensive framework, and uses SEM method to test it in the context of Tanzania. In so doing, the study combines the elements of the competitive positioning and RBV to propose a dynamic model of competitive advantage. Moreover, the study establishes the inter-linkages among the determinants of competitiveness by developing a comprehensive, robust and dynamic model of

determinants of national competitiveness, and hence provides a unique approach contrary to focus on narrow analysis. Nevertheless, there is a gap that Porter established both micro and macro foundation of competitiveness without providing a robust statistical approach to measure the linkages among the determinants, and he relied on logical approach rather than mathematical models to justify the frameworks (Smit, 2010). Further, there is a growing debate that Porter's competitiveness framework is not a new theory of economics (Smit, 2010). To sum up, the major gap observed is that Tanzania is competing based on basic natural resources, and there is an urgent need for the country to transform the way it is competing (World Bank, 2005).

CHAPTER THREE

MATERIALS AND METHODS

3.1 Overview of the Methodology

This chapter provides discussion of the methodology adopted in this study and is organized as follows. It describes the research philosophy, research design, conceptual framework, applicable model and hypotheses, sampling techniques and data analysis methods adopted.

3.2 Research Philosophy

There are two types of research philosophies, positivist and post-positivism philosophies. The positivism approach adopts quantitative approach to investigate phenomena, while a post-positivist approach aims at describing and exploring in-depth phenomena from a qualitative perspective. Smith (1998) provides a useful definition of positivism methodology arguing that the approach assumes things can be studied as hard facts; and the relationship between these facts can be established as scientific laws. For positivists, such laws have the status of truth and social objects can be studied in much the same way as natural objects". Popper (1959) provided a criticism on this approach on the ground that, within the world of modern science, the elementary justifications of positivism were no longer entirely defensible as aspects of human beings are not entirely quantifiable.

On this ground, it emerged a new philosophy, post-positivism, that hold that reality is not a rigid thing; instead it is based on individuals involved in the research, and does not exist within a vacuum (Hughes, 1994). Proctor (1998) suggests that culture, gender, and beliefs are the most significant factors in determining approach to be adopted, and recognize the intricate relationship between individual behaviour, attitudes, external structures, and socio-cultural issues.

The quantitative research methods are associated with the positivism tradition, while the qualitative methods are associated with post-positivism approaches. Selection of methods to be used should be determined by several factors, including the researcher's experience, understanding of philosophy and personal beliefs (Denzin and Lincoln, 1994).

According to Proctor (1998), choice of the philosophy depends on the consistency between the aim of a research study, the research questions, the chosen methods, personal philosophy of the researcher and rationale for research. Given that the two approaches differ in terms of approach, they are used together to bring more clarity. Based on these grounds, this study adopted positivist, quantitative approach to investigate the determinants of competitive advantage in the context of textiles and apparel industry in Tanzania.

3.3 Research Design

After description of the conceptual model in the previous section, the next question is what type of design is most appropriate to find out answers to the research problem.

Research design puts clear on the type of data required, research methods to collect and analyze data, and how all of this is going to answer the research question (George and Brian, 2007). The next sub-section discusses the types of research designs.

3.3.1 Research Designs Classified with Regard to Reference Period

Research designs can also be further categorized with regard to the reference period: these can be retrospective, prospective and retrospective-prospective designs (Ranjit, 1996: 86). The retrospective study design investigate a phenomenon, situation, problem or issues of the past conducted on the basis of data available or respondent's recall of the situation; whereas the prospective designs attempt to underscore the likely outcome of the same aspects in the future. The retrospective-prospective study design attempts to study past trends of a phenomenon and project the future outcomes. This research design is not appropriate to the research problem of this study and was not used.

3.3.2 Research Designs Classified with Regard to the Purpose of Enquiry

Research design can also be exploratory and diagnostic, as well as hypothesis testing (Kothari, 2004). Exploratory research is conducted to better understand the situation as basis of further analysis, and is therefore not intended to come up with final answers. The techniques used to undertake the exploratory research design are literature search, depth interview, focus group and case study analysis.

On the other hand, the goal of descriptive research design is to describe the frequency with which something occurs or the extent to which two variables covary. In this category, there are two types: first, the cross-section design, which attempts to

make investigation involving a sample of elements selected from the population of interest that are measured at a single point in time; second, longitudinal designs, which involving a fixed sample of elements that is measured repeatedly through time. The third type, the causal research design, aims at establishing evidence that a particular action is likely to produce a particular outcome. The major difference between the descriptive and causal designs is that in the former we are interested to know the nature of relationship between the variables while in the second we are interested to know the impact.

3.3.3 Research Designs According to the Number of Contacts

There are three types of research designs classified under this type, which are research designs according to the number of contacts with the study population, the reference period of the study and the nature of investigation (Kothari, 2004; Ranjit, 1996:83). The designs based on the number of contacts can be classified as cross-sectional, before and after, and longitudinal studies. The cross-sectional studies are suited to find out the prevalence of the phenomenon, situation, problem, attitude or issues, by taking a cross section of the population. The before and after designs are associated with measuring change in the situation, phenomenon, issues or attitude; and can be described as a cross-sectional observations on the same population to assess change of variables in two points of time (Ranjit, 1996; Kothari, 2004). Finally, the longitudinal study design is suitable to study the pattern of change in relations with time and assessment of trends over time.

3.3.4 The Selected Research Design of the Study

Based on the foregoing discussion, this study used cross-section survey design because of the need to identify key factors for sustainable competitive advantage. This design is used to formulate problems for more precise investigation, discover new insights, develop hypothesis as a basis for further research, establish priorities for further research and increase familiarity in the problem area (Kothari, 2004; Angela, 2005). This is appropriate for this study given that the rationale to fill the gap in knowledge as regards the determinants of competitive advantage for developing economies such as Tanzania.

As supported by Zikmund (2000), the research design of this study starts with a problem definition, followed by selection of research technique and research methods, sampling methods, data gathering, analysis and conclusion. The survey instrument was prepared, data collected, and hypothesis were tested using deductive reasoning. Based on data collected, analysis was done to test the developed model (George and Brian, 2007). Both induction and deduction reasoning was employed in this study. Critical review of theories was done for inductive reasoning to identify key competitiveness variables of interest and develop a conceptual model. Table 3.1 summarizes the difference between the two logics:

Table 3.1: The Logic of Reasoning

Hypothetical-deductive logic	**Ethnographic-inductive logic**
• Read first (literature review) • Develop an idea (theoretical framework)	• Read first (literature review) • Gain experience, participate, listen, record experiences & data (ethnographic description)
• Go and gather evidence (data collection methods)	• Describe the theoretical implications of what you saw/heard (discussion & theory

	building)
• Test it (findings)	• Explain where you were and how you went about your task of understanding (background to the study)

Source*:* Authors' based on surveyed literature

3.3.5 The Conceptual Framework of the Study

Having decided on the appropriate research design, the study sought a relevant conceptual framework as a basis of scientific analysis used in this thesis. As such, a conceptual framework can be defined as a set of rules and ideas which are used in order to deal with problem; and decide what to do (Bernadeta, 2013). The conceptual framework is a necessary input to enable the industries become competitive. Moon and Cho (2002) argues thus: 'a conceptual framework needs to be developed to show the fundamentals factors that determine firm competitiveness of a particular nation; and specifically show how these nations can improve their competitive advantage". The framework may also be viewed as an analysis of the research problem using theory, and it illustrate the main concepts to be studied, how the variables interact with each other by the aid of diagram if possible (Mukanda, 2005). The conceptual framework can be presented either graphically or in narrative form to show the main things to be studied—the key factors, concepts, or variables, and the presumed relationships among them. As an example, Gowrie et al 2012:35 provided a conceptual model explaining determinants of SCA using four constructs which are effective supply chain management, organizational responsiveness, product differentiation and innovation, and cost leadership.

As such, understanding the relevant conceptual framework is important as it provides an overview of the key elements and relations to be observed; and helps to bridge the

gap between theory and empirical research, and between general concepts at theory level and measurable indicators (Daniel, 2005). As an example, Dirk (2006) developed a conceptual competitiveness model for South Africa.

As regards conceptual model, Landry and Malouin (1983) defines it as a coherent mental image of managerial situation and is formed by prevailing situations, perceptions, value judgments, preferences, experience and knowledge of model builder….and it shows how the managerial situation can best be depicted. The process also entails defining the formal model, which can be mathematical, computer based or statistical, or combination of these. Finding the solution of the formal model can be optimal or near optimal, and helps the firms to craft an appropriate strategy. Understanding of the phenomenon helps the model builder to capture key and strategic factors to be considered in the quest to prepare corporate strategies. Oral and Kettan (1999) defines the formal model as follows:

> ‘is a decision as to which alternative course of action is to be taken for implementation, or which areas are to be given more managerial attention in order to make considerable change in terms of management style, technology, resources and capability creation, knowledge acquisition and dissemination, marketing activities and performance improvement”.

The logic behind development of conceptual model in this study is that, the process in which the firm needs to design an appropriate strategy in line with the competitive environment starts from analyzing the managerial situation, building a conceptual model, building a formal model and finally strategy formation. For the conceptual

model to be developed, academic theories need to be revised to identify factors that are significant in determining competitive advantage (Benadeta, 2013). Therefore, based on this discussion, this study adopts the conceptual model that is considered to be a blueprint for textiles and apparel firms (and other industries) to prepare competitive corporate strategies. In doing so, this study uses Landry and Malouin (1983) approach to constructing a conceptual model as a coherent mental image of managerial situation, where literature review and prevailing situations, perceptions, value judgments, experience and knowledge on textile and apparel industry contributed on building the model.

The development of the conceptual framework for this study is based on the emerging views and trends of competitive advantage which have resulted into mixed and conflicting advices to business managers (Williamson and Verdin, 1993). To contribute on this gap, the conceptual framework used in this study is based on the reviewed theoretical and empirical literature to show key constructs and variables that determine the sources of competitive advantage. The competitive model is based on PDM, PFF and core competencies: the model is built on the premises that competitiveness is a multidimensional concept, in which subjective, objective financial and non-financial measures can be used to quantify firm performance (Pujab and Kume, 2014).

The conceptual model extends thinking by management strategists and industrial economists who have long been interested in the determinants of firm performance (Markku and Erlend, 2010). Two major schools of thoughts have been applied: the industrial positioning school (Porter, 1998) that focuses on external dimensions of

the firm; and Resources Based View Perspective (Barney, 1991; Margaret, 1993) that focuses on internal dimensions. Based on this reasoning, the model developed for this study combines the two perspectives given that both external forces as explained by the positioning school and the internal dimensions as determined by the firm resources and capabilities, determine the competitive advantage. This mental depiction of reality is considered to be more rational, as two forces impact the firm in a varied magnitude.

The conceptual model is based on strong evidence that firms worldwide are striving to be low costs and also adopt differentiation strategies to be able to compete. The internal dimensions of the micro model are explained as follows: for the firms to withstand competition, they need to control the cost drivers to be able to compete; which are determined by ability to manage inbound logistics, operations, outbound logistics, marketing and sales, and after sale services. The firms should also be able to manage supporting activities which are crucial for firm performance, which are infrastructure, human resources management, technology development and procurement. In addition, core managerial competency enables the firm respond to changing circumstances embedded in the firm's internal and external environment, manage in a sustainable manner the firm's value chain processes; and in turn it entails being flexible in terms of thinking, responsive to change, freedom to adopt changes, broadening of mind etc. All these imply that a firm need to develop the core competencies which play a crucial role.

The external dimension of the micro model is based on the fact that; the essence of formulating a competitive strategy depends on factors relating a company to its

environment. As explained, industrial positioning school based on PFF and PDM helps to understand the firm behaviour (Orges and Omer, 2008); and it will be a waste of company efforts if the managers neglect the external environment affecting the firm. The five forces is composed of threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products and rivalry among existing firms (Porter 1990, Melih 2012). The essence of understanding the nature of five forces is that managers use their experiences to understand information that they perceive to be critical, and they make their decisions based on the external environment (Porac and Thomas, 1990; Michael *et al* 2002).

Not only the micro dimensions outlined above, the macroeconomic conditions impact on firm performance. For example, in economic standpoint, when lending interest rates are high, it will discourage firms to commit new investments; likewise, high inflation rates and exchange rates are macro-economic variables that need to be taken into consideration. Given that this study focuses on fundamentals of competitive advantage based on contemporary thinking, this study adopts the Porter's Diamond Model (PDM) as a macroeconomic proxy of understanding determinants of firm competitiveness at the national level. The PDM is used alongside with the PFF in the framework because there has been scanty empirical literature to show the linkages between the industry structure and determinants of national competitive advantage.

3.3.6 The SEM Model and Hypotheses

3.3.6.1 The SEM Model

Basically this study tests two types of model, the measurement model involving the latent constructs and observed variables and a structural model involving the relationship among the latent constructs used in the study. Figure 3.1 shows the conceptual model which was developed after the intensive literature review:

In the conceptual model, our interest is to explore how the key competitiveness variables are related. The measurement model for each latent variable has observed variables that define the particular latent variable. The relationship among the latent constructs is hypothesized as follows. Competitive advantage, as a latent exogenous variable, predicts diamond conditions, strategy and core competency as endogenous latent variables. At the second level, these variables are exogenous latent variables.

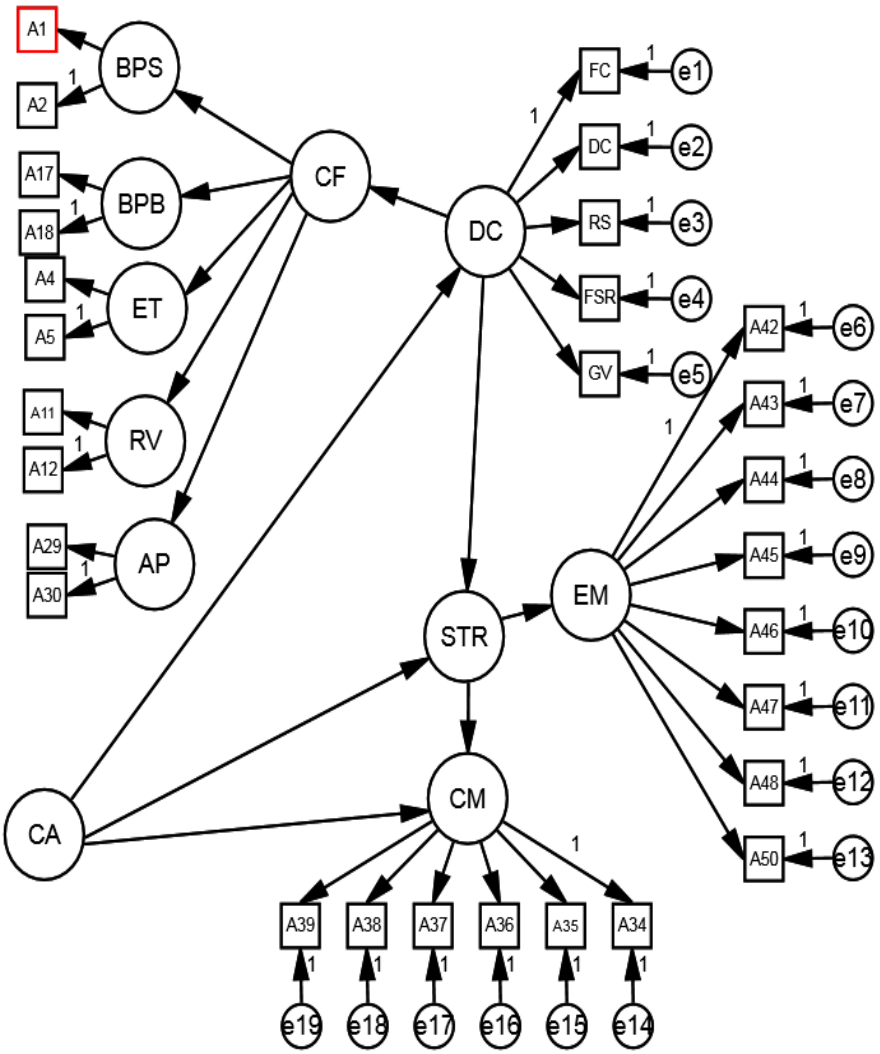


Figure 3.1: The Proposed SEM Model of the Study

Source: Authors' SEM Model based on Reviewed Literature

Note (s): (1) The Abbreviations are defined under 'Abbreviation section' of the preliminary pages.

(2) The results based on this structural model are presented in Figure 4.15 under 'Findings and Discussion" Chapter.

Strategy (STR) is an exogenous variable that predicts enterprise management (EM) and Core Competency (CM). Competitive Advantage (CA) indirectly predicts Enterprise Management (EM), through the mediating endogenous latent variable,

STR. It is also postulated that Diamond conditions (DC) has a positive relationship with the Five Forces (CF). The DC is a latent endogenous variable; which is also a mediating latent variable on the relationship between CA and CF. In the model, CA also predicts CM.

In the figure, an arrow is drawn from the latent variable to the observed variables. The unique measurement error is estimated for each observed variable, and each observed variable has a factor loading to be estimated and a unique measurement error. The structural model has included few observed variables for demonstration purposes only, the entire list of observed variables used in the study are shown under findings and discussion chapter.

3.3.6.2 Model Specification

In mathematical notation, the relationship between the observed variables and the factors in SEM is expressed using the following formula:

$$\mathbf{x} = \Lambda_x \xi + \delta$$

Where x represents a matrix of observed variables, Λ_x is the loading of variable x on the common factor ξ and δ is the error term.

For this study, the relationships between the latent constructs and the observed variables that are used to measure both micro and macro measurement models in SEM can be specified in a set of factor equations in a scalar form as follows:

$A_1 = \lambda_{11}\xi_1 + \delta_1$ $\quad$ $A_2 = \lambda_{21}\xi_1 + \delta_2$

$A_3 = \lambda_{32}\xi_3 + \delta_3$ $\quad$ $A_4 = \lambda_{42}\xi_2 + \delta_4$

$A_5 = \lambda_{53}\xi_3 + \delta_5$ etc **(1)**

The scalar notation for micro variables becomes $A_i = \lambda_{ij}\xi j + \delta_i$ and the for the macro variables becomes $M_i = \lambda_{ij}\xi j + \delta_i$

Where A_i (or M_i) are the endogenous, dependent or measured variables; δ_i is the residual variable (error) which is the unique factor affecting A_i; λ_{ij} is the loading of the observed variables x_i on the common factor ξ_j, the sample covariance matrix is of the form:

$S =$

	Item$_1$	**Item$_2$**	**Item$_3$**	**Item$_4$**
Item$_1$	$\mathbf{s^2_{11}}$	s^2_{12}	s^2_{13}	s^2_{14}
Item$_2$	s^2_{21}	$\mathbf{s^2_{22}}$	s^2_{23}	s^2_{24}
Item$_3$	s^2_{31}	s^2_{32}	$\mathbf{s^2_{33}}$	s^2_{34}
Item$_4$	s^2_{41}	s^2_{42}	s^2_{43}	$\mathbf{s^2_{44}}$

Therefore, the corresponding residual matrix takes the form:

	Item$_1$	**Item$_2$**	**Item$_3$**	**Item$_4$**
Item$_1$	$\mathbf{\sigma^2_{11}}$	σ^2_{12}	σ^2_{13}	σ^2_{14}
Item$_2$	σ^2_{21}	$\mathbf{\sigma^2_{22}}$	σ^2_{23}	σ^2_{24}
Item$_3$	σ^2_{31}	σ^2_{32}	$\mathbf{\sigma^2_{33}}$	σ^2_{34}
Item$_4$	σ^2_{41}	σ^2_{42}	σ^2_{43}	$\mathbf{\sigma^2_{44}}$

The estimation fitting function to be used is maximum likelihood, aimed at obtaining the estimates for each parameter specified that produce the implied matrix $\sum$ such that the parameter estimates yield a matrix as close as possible to *S* (Schumacker and

Lomax, 2004). As discussed under the data analysis section below, CFA fit indices are used to assess the degree of model fit for the measurement models, and the interest is to have a difference between the elements in the matrix *S* as close as possible to the model implied matrix $\sum$.

3.3.6.3 Model Identification

After model specification, it is important that the model is identified prior to estimation of parameters. The basic question we need to answer is that: on the basis of the sample data contained in the sample variance-covariance matrix *S,* and the theoretical model implied by the population variance-covariance matrix $\sum$, can a unique set of parameter estimates be found? (Schumacker and Lomax, 2004). In doing so, we need to assess the order condition; the number of free parameters to be estimated must be less than the number of distinct values in the matrix *S,* which is given in the following formula:

$$DV = p\,(p+1)/2 \quad \text{.....(2)}$$

where *p* is the number of variables in the sample-covariance matrix and DV is the distinct values in the sample covariance matrix, which need to be compared with the free parameters to be estimated. This formula was applied for each latent construct to determine whether the measurement model associated with the construct is identified.

3.3.6.4 Research Hypothesis

Based on the conceptual model, the study adopts 12 specific hypotheses. Accordingly to Ranjit (1996), hypothesis is a proposition, condition, or principle

which is assumed, perhaps without belief, in order to draw out its logical consequence. The following are the specific hypotheses to be tested:

(i) **Hypothesis 1:** Factor conditions are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania;

(ii) **Hypothesis 2:** Demand conditions are not statistically significant determinants of competitive advantage;

(iii) **Hypothesis 3:** Related and supporting industries are not statistically significant determinants of competitive advantage;

(iv) **Hypothesis 4**: Firm strategy, structure and rivalry are not statistically significant determinants of competitive advantage;

(v) **Hypothesis 5**: The Government is not statistically significant in determining the competitive advantage;

(vi) **Sub-hypothesis 6**: Bargaining power of suppliers is not statistically significant in determining the competitive advantage;

(vii) **Hypothesis 7**: Bargaining power of buyers is not statistically significant in determining the competitive advantage

(viii) **Hypothesis 8:** Threat of new entrants is not statistically significant in determining the competitive advantage;

(ix) **Hypothesis 9:** Rivalry among competitors is not statistically significant in determining the competitive advantage;

(x) **Hypothesis 10**: Alternative Products is not statistically significant determinants of competitive advantage

(xi) **Hypothesis 11:** The core competency is not statistically significant in determining the competitive advantage; and

(xii) **Hypothesis 12**: Value chain management practices are not statistically significant in determining the competitive advantage.

3.3.6.5 Literature Review for the Conceptual Model

The conceptual model has been developed based on intensive literature review based on Five Forces model, PDM and Resources Based View. Some of relevant studies reviewed are shown in Table 3.2.

Table 3.2: The Applicable Studies

Micro-Model Determinant	Latent Constructs	Literature Cited
Industry's Rivalry	Bargaining power of buyers	Porter, 2008; Kennedy, 2009; Gabriel, 2005
	Threat of new entrants	
	Threat of substitute products	
	Rivalry among existing competitors	
	Bargaining power of suppliers	
Competitive Strategy	Key Competencies (Technology and people)	Adjani, 2008; Hamel and Prahalad, 1990
	Cost and Differentiation advantage	
	Economies of Scale and Scope	Porter, 2008; Porter, 2008, Adjani 2008; Hamel and Prahalad, 1990
	Firm Value Chain (Primary Activities, Support Activities	

Sources: Author's analysis based on literature reviewed

3.4 Sampling Design

The target population includes all people or items with the characteristic one wishes to understand (Zikmund, 2003; Nguyen 2010). The targeted population of this study is total formal employees of the textile and apparel industry, it was recorded to be 2400 in 2011 (MIT, 2011).

According to Krishnaswami and Ranganatham (2006), sampling frame is a list of all elements from which the sample is drawn, and is used when it is not possible to

collect data from the entire targeted population. The sampling units constitute the employees of the textile and apparel industry with knowledge on competitive aspects, and the sample size of 200 cases was used. Considering the two major techniques of sampling which are probability sampling and non-probability sampling (Zikmund 2003, Nguyen 2010); the sampling design used in this study is non-probability sampling design, using judgemental sampling. Data were collected from Dar es Salaam, Arusha and Tabora regions.

3.4.1 Determination of Sample Size

Selection of the appropriate sample size was based on the formula and absolute sample size:

3.4.1.1 The Formula Criterion

There are many formula from which a researcher can adopt. According to James *et al* 2011, the most widely used formula is provided by Cochran's (1977) which uses two key factors which are the risk the researcher is willing to accept in the study, called the margin of error and the alpha level, the level of acceptable risk the researcher is willing to accept that the true margin of error exceeds the acceptable margin of error, also called Type 1 error. The alpha level commonly used is 5 percent (0.05) or 1 percent (0.01); and the acceptable margin of error is five percent (0.05). Assuming that we set the alpha level at .05, with a five likert scale, the level of acceptable error at 5% and that the estimated standard deviation of the scale as 1.167, Cochran's sample size formula for continuous data is given as:

$$n = \frac{t^2 \mathrm{x}\, s^2}{\mathrm{d}^2} \qquad \textbf{(3)}$$

Where:

t = Value for selected alpha level of 0.025 in each tail = 1.96;

s = Estimate of standard deviation in the population = 1.25 (estimate of variance deviation for calculated by using 5, the used five likert scale, divided by 4 [with 2 to each side of the mean], which is the number of standard deviations that include almost all, approximately 98% of the possible values.

d = Acceptable margin of error for mean being estimated = 0.2 (number of points on primary scale multiplied by acceptable margin of error. The points on primary scale = 5; and acceptable margin of error is only 4 percent, an error accepted in this research).

Given the total employees of the textile and apparel industry is 2400 (Andy et al 2011), the required sample size is:

$$\frac{(1.96)^2 \times (1.25)^2}{(5 \times 0.02)^2}$$

= 149.75 which is approximated to 150.

Given that this sample size exceeds 5 percent of the population; Cochran's (1977) correction formula is used for the final sample size becomes;

$$m = \frac{n}{1+n/N} \qquad (3)$$

Where:

N = Population size = 2400

n = Required return sample size according to Cochran's formula= 150.

m Required sample size because n > 5%.

$$m = \frac{150}{1 + 150/2400}$$

Therefore, the sample size could be reduced to 141 according to Cochran's correction formula.

3.4.1.2 Absolute Sample Size

According to Dawn (2009), SEM models can accept small samples even 50 cases depending on the complexity of the model. Simulation of effects of sample sizes on the selected fit indices using Model Chi-Square (X^2), Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI) using different samples from N=50 to N=1000 shows that a fair model fit was attained using a sample size of N=150 and reasonably good fit at N=200.

Further, given that reliability of factor analysis depends on sample size (Field, 2005), Hatcher (1994) argued the sample size of 100 cases or five times the number of variables to be reasonable for factor analysis. For the purpose of reducing bias and SEM model applicability, Gerbing and Anderson (1985) found that with three indicators or more per factor, "a sample size of 100 will usually be sufficient for convergence," and a sample size of 150 will usually be sufficient for a convergent and proper solution". Therefore, the appropriate sample size used in this study is 200 cases.

3.5 Data Collection Methods

3.5.1 Secondary Data

Secondary data to describe Tanzania's textiles and apparel industry were collected from official publications and studies. The information was collected from the Ministry of Industry and Trade, Tanzania Cotton Board, Confederation of Tanzania Industries and Tanzania Textiles Unit.

3.5.2 Primary Data Collection

A closed-ended questionnaire was administered for data collection. Given that measurement of qualitative phenomenon is a complex task, an approach must be designed to measure the score of an individual in a likert scale (Anjana, 2008). The respondents were presented with attributes in 5-point Likert Scale and were asked on their position on the scale **(Appendix 1).** Out of 400 questionnaires administered, 204 questionnaires were returned, a response rate of about 50 percent. The response was increased by using well paid research assistants, frequent physical and phone follow-ups to the respondents. The questionnaire was designed based on the scale from 5 (strongly agree) to 1 (agree). Table 3.3 shows key sections in the questionnaire.

Table 3.3: Linkage of Variables with the Questionnaire

Variable Description	**Corresponding Section**
Diamond conditions	Section A
Industry's Rivalry	Section B

Competitive Strategy	Section C

Source: Author's Analysis

3.6 Data Analysis Methods

The data analysis technique used was structural equation modelling (SEM). This study adopts Exploratory Factor Analysis as a first step and Confirmatory Factor Analysis (CFA) done using SEM as a second step. Before subjecting the data into SEM analysis, in the first place, descriptive analysis using SPSS-16 was done to compute the key preliminary statistics such as mean, median, standard deviation, skewness and kurtosis (Maher, 2008; Jones, 2013). Skewness and kurtosis analysis was done because when a distribution is skewed or kurtotic, it may not be normally distributed and in this case the assumption of linearity would not be met. The reliability analysis of the data using cronbach's alpha based on standardized items was done to check the content validity of the constructs and internal consistency of the items measuring the constructs.

After descriptive analysis, factor analysis was used to identify the underlying factors that are responsible for covariation among the variables. The goal was to determine few variables that contain the same information as those contained in the original data by combining variables that are collinear into new factors. The data was checked for suitability to factor analysis, and Bartlett's Test of Sphericity (BTS) was used to determine whether the correlation matrix is an Identity Matrix (An Identity Matrix is a matrix in which all diagonals are 0 and off-diagonals are 1).

This step is important in factor analysis as it helps to assess whether factor analysis will be suitable: if the null hypothesis that the population correlation matrix is an identity matrix cannot be rejected because the observed significance level is large, the use of the factor model should be reconsidered; otherwise the null hypothesis is rejected and factor analysis is suitable. Again, it is also necessary to examine the values in the Anti-Image Matrix: low correlation values in this matrix will produce large numbers; and if the off-diagonal values of this matrix are close to zero, factor analysis is appropriate. Then the adequacy of the sample size using the Kaiser-Meyer-Olkin (KMO measure of sampling adequacy was done. The KMO compares the observed correlation matrix with the partial coefficients, and small values indicate that the sample size is not adequate. The KMO value of 0.9 is best and the value below 0.5 is unacceptable. For the factor analysis to be applicable, the data must be interval level and normally distributed. There should be no specification error in the model, because this would mean that the relevant factors are excluded.

Further, there must be a sufficient sample size for the analysis to be used, and a minimum of 100 respondents is acceptable (Hatcher, 1994). Factor extraction using principal component analysis was done to determine the linear combination of variables that account for the greatest common variance. Then factor extraction using Principal Component Analysis was done to determine factors underlying the set of measured construct that forms linear combination of variables. After this process, factor rotation was done to make the relationships among variables more parsimonious, meaningful and easier to interpret. The most popular rotational method is varimax which use orthogonal rotations to yield uncorrelated components.

Lastly, grouping the variables with the largest loading for the same factor was done, and linear factor equations for the principal components are presented and interpreted.

For the matter of clarity, principal component is the combination which accounts for the largest variance, followed by the second component which accounts for the next largest variance, and is uncorrelated with the first. The scree plots and Eigen values were used to examine the factors which accounts for the large part of the data. As a matter of principal, factors with Eigen value greater than one are taken and those with eigen value less than 1 are dropped. The resulting principal components were subjected to linear equation modelling using Analysis of Variance (ANOVA) to analyze the significance of the resulting variables and associated models; correlation coefficients of all independent variables used and the corresponding variance of all variables in each model. This technique was used to check the explanatory power of the variables.

Next, the rotated component matrix developed during EFA process was subjected under SEM analysis, in which the measurement models were developed using the Rotated Pattern Matrix using AMOS 21. To avoid confusion, it will be recalled that a SEM model combines the aspects of CFA and multiple regression: the SEM method was preferred as it can be used to depict the complex relations among the measurement model constructs and linear relationship among the latent constructs.

The SEM process starts with analyzing the measurement models and then combines the measurement models to present the structural model. Both absolute fit indices

and incremental fit indices were used. The absolute fit indices measures the overall fit of the model (Edward and Joost (2012), and shows how well the model specified by the researcher reproduces the observed data (Nguyen, 2010). There are several absolute fit indices, but the most important are the Chi-square ($\chi 2$) statistic, the Goodness-of-Fit Index (GFI), the Root Means Square Residual (RMSR), the Root Mean Square Error of Approximation (RMSEA) and Normed Chi-square. Where applicable, the modification indices were used to improve the model fit. The acceptable level of threshold are provided in Appendix 5.

The estimation fitting function used for SEM method is maximum likelihood: it aims at obtaining the estimates for each parameters specified that produce the implied matrix $\sum$ such as the parameter estimates yield a matrix as close as possible to S (Schumacker and Lomax, 2004). The CFA fit indices are used for this purpose, significance of the parameter estimates are assessed to estimate whether parameter estimates are significantly different from zero.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Sample Profile

After the data was collected, data cleaning and analysis of missing and inaccurate values was done where the questionnaires with missing information were removed. Thereafter, analysis of sample profile was done.

Analysis of the sample shows that majority of the respondents (two-third) were male constituting 61.8 percent of the sample and female constituted the remaining 38.2 percent as shown in Table 4.1. Analysis of age composition of the sample shows that majority of the respondents are in the age group 31-40 years old, followed by under 30 years old and then 41-50 years. It is encouraging to note that the active "young group" constitutes the large part of the sample as shown in Table 4.1.

Table 4.1: Gender Composition of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Male	126	61.8	61.8	61.8
	Female	78	38.2	38.2	100.0
	Total	204	100.0	100.0	

Table 4.2: Age Composition of Respondents

Age Group	Frequency	Valid Percent	Cumulative Percent
Under 30 years	58	28.4	28.4
31-40 years	102	50.0	78.4
41-50 years	35	17.2	95.6
51-60 years	8	3.9	99.5
Over 60 years	1	0.5	100.0
Total	**204**	**100.0**	

Analysis of the level of education shows that 47.5 percent of the respondents had a bachelor degree, followed by graduate diploma 27.9 percent, diploma 17.2 percent, masters (6.9 percent), and lastly, high school 0.5 percent of all the respondents as shown in Table 4.3.

Table 4.3: Education of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	1	0.5	0.5	0.5
	Diploma	35	17.2	17.2	17.6
	Barchelor degree	97	47.5	47.5	65.2
	Graduate diploma	57	27.9	27.9	93.1
	Masters Degree	14	6.9	6.9	100.0
	Total	**204**	**100.0**	**100.0**	

As regards employment carriers, the majority of the sample is employed in sales or marketing manager/officer constituting 26 percent, followed by production managers (17.6 percent), human resources managers/officers (16.2 percent) and finance/accounting officers or managers (11.8 percent) as shown in Table 4.4.

Table 4.4: Job Functions of Employees

Job Function	Frequency	Percent	Cumulative Percent
Chief Executive Officer	2	1.0	1.0
Managing Director	5	2.5	3.4
General Manager	9	4.4	7.8
Sales/Marketing Manager/Officer	53	26.0	33.8
Finance/Accounting Manager/Officer	24	11.8	45.6
Human Resources Manager/Officer	33	16.2	61.8
ICT Manager/Officer	17	8.3	70.1
Production Manager/Officer	36	17.6	87.7
Not applicable	25	12.3	100.0
Total	**204**	**100.0**	

As regards duration of being under employment, majority of employees is experienced staffs in the category 6-10 years constituting 36.8 percent, followed by 1-2 years (24.5 percent) and 3-5 years (15.2 percent) as shown in Table 4.5.

Table 4.5: Duration of Employment

	Frequency	Percent	Cumulative Percent
Less than 1 year	27	13.2	13.2
1-2 years	50	24.5	37.7
3-5 years	31	15.2	52.9
6-10 years	75	36.8	89.7
11-20 years	21	10.3	98
Total	**204**	**100**	**100**

Source: Field Data (2015)

4.2 Reliability Analysis

Before undertaking data analysis, reliability test was done to check whether the scale reflects the constructs it is intended to measure. Accordingly, a person should get the same score if compete the questionnaire at two different points in time, in which case

the individual items should produce results consistent with the overall questionnaire (Field, 2005). The crobach's alpha (α), a measure of scale reliability was used to check the content validity of the constructs and internal consistency of the items measuring the constructs. With an exception of bargaining power of suppliers, all constructs had excellent average internal consistency of 0.8 indicating that the constructs are the good measures of competitive advantage. In addition, all variables were subjected to reliability analysis to check for internal consistency, and "alpha if item is deleted" criteria, which tests the change to alpha value if the item is deleted was used. All variables had excellent internal consistency. Table 4.6 shows the construct validity and Appendix 2 shows the reliability analysis for all the variables used in which all variables passed the reliability test.

Table 4.6*:* Construct Validity

Latent Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Factor Conditions	0.77	0.77	9
Demand Conditions	0.83	0.83	10
Related Industries	0.75	0.75	6
Firm Strategy	0.79	0.79	11
The Role of Government	0.74	0.76	11
Entry Barriers	0.79	0.79	9
Competition	0.84	0.84	8
Bargaining power of buyers	0.76	0.76	8
Bargaining power of supplies	0.67	0.69	6
Substitutes	0.79	0.80	7
Core Competency	0.86	0.86	9
Value Chain Management	0.91	0.91	10

Source: Field Data (2015)

4.3 Descriptive Analysis of the Data

Factor Analysis and Structural Equation Modelling requires that data is normally distributed. For the normality test, the absolute value of skewness and kurtosis values must be around 2 and 7 respectively for data to be normally distributed (Kline, 1998, Nguyen 2010); otherwise the Weighted Least Square (WLS), Generalised Least Squares (GLS), and Asymptotically Distribution Free (ADF) techniques must be used. In case normality is not a problem, the Maximum Likelihood (ML), which is the best structural equation modelling technique, must be used (Hair *et al.,* 2006).

4.3.1 Descriptive Analysis of the Micro Model

Analysis of the micro data including normality assessment shows that normality is not a problem for the data given that the values of skewness and kurtosis are close to 2 and 7 respectively. The statistical description of data on mean and median values shows marginal difference in mean and median indicating little or insignificant effect of extreme values. The value of standard error is 0.2, which is close to zero for the sample to be representative. The standard deviation of all the variables being low show that there is least spread around the mean.

4.3.2 Descriptive Statistics

The skewness and kurtosis presented confirm the variables of micro and macro models are normally distributed as most of the variables have values close to 0. There is marginal difference in mean and median indicating little or insignificant effect of extreme values. The standard deviation of all the variables suggests that there is least spread around the mean. In addition, the correlation matrix shows that

all variables are correlated with each other, and singularity is not a problem for the data which provides the basis that factor analysis can be done (Field, 2005). The descriptive diagnostics are shown in Appendices 3 and 4 respectively.

4.3.3 Correlation Matrices

The second major pre-condition for factor analysis is to check for multcollinearity in the data, and the correlation matrix is used for this purpose to check whether the variables are not highly correlated with each other. In addition, singularity should not be a problem for undertaking factor analysis (Field, 2005). The Correlation Matrix and an Anti Image Matrix showed that there is no multcollinearity problem as variables are moderately correlated, and the off-diagonal values of anti-image matrix are close to zero, which is a required condition for factor analysis. After the descriptive analysis, the next sections present the results for each objective.

4.4 Factor Analysis of the Micro Model

This section aims at addressing Research Objective 1: **"**To explore the underlying dimensions of micro-competitiveness model based on five forces, firm's generic value chain and core competency".

4.4.1 Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy

For factor analysis to be applicable, the variables must be related to each other because in the case the correlations between variables are small it is unlikely that they share common factors (Field, 2005). Therefore, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to assess the adequacy of the sample for factor analysis. Table 4.8 shows that the KMO value is 0.813, which suggests that the sample is adequate for factor analysis: in general, the KMO value above 0.5 is

acceptable and below 0.5 is not acceptable (Field, 2005). The null hypotheses for this purpose states that factor analysis cannot be used to analyze competitiveness diamond variables of the textiles and apparel industry in Tanzania. The alternative hypothesis states that factor analysis can be used in analyzing determinants of competitiveness in the industry at 5 percent significance level. The null hypothesis is rejected if the p-value is less than the significance level.

Table 4.7: Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.813
Bartlett's Test of Sphericity	Approx. Chi-Square	6.037E3
	Df	1225
	Sig.	0.000

As indicated in Table 4.7, the conclusion is to reject the null hypothesis and proceed with the estimation of factor analysis because the p-value 0.00 is less than significance value of 0.05 (Field, 2005).

4.4.2 Factor Extraction

From the total variance explained, factor extraction was done to determine the factors using Eigen values greater than 1. Factors with Eigen values less than 1.00 were not used because they account for less than the variation explained by a single variable and the rotated matrix was used to write the factor equations. The 50 variables that were used in the model were restricted to 7 components, accounting for 58.8% of total variation as shown in Table 4.8. The scree plot to show the total variance explained by the principal components associated with each factor is shown in Figure 4.1.

Table 4.8: Total Variance Explained

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1.	11.074	22.148	22.148	5.936	11.873	11.873
2.	5.452	10.905	33.053	4.717	9.433	21.306
3.	3.519	7.038	40.091	4.512	9.024	30.330
4.	2.812	5.624	45.716	4.322	8.643	38.974
5.	2.640	5.279	50.995	3.562	7.124	46.097
6.	2.023	4.047	55.042	3.456	6.912	53.009
7.	1.759	3.517	58.559	2.775	5.550	58.559

Extraction Method: Principal Component Analysis

The Scree plot

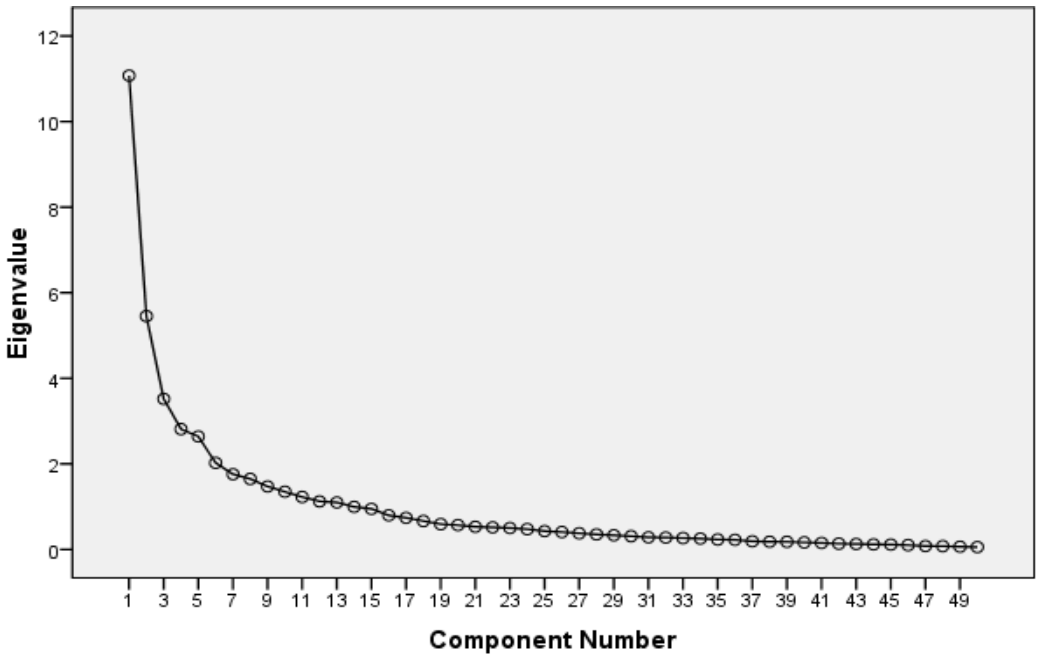


Figure 4.1: The Scree Plot of the Micro Competitiveness Model

Rotated Component Matrix

The goal of rotated component matrix is to transform the original component matrix to make interpretation as simple as possible by achieving a simple pattern structure. The items have been suppressed at the value of 0.5 and those above this value were retained. Table 4.9 (a) and (b) shows the rotated component matrix for micro variables.

Table 4.9: The Rotated Component Matrix for Micro Variables

	Components	1	2	3	4	5	6
A1	Capital requirements						
A2	Access to distribution channels						
A3	Access to raw materials					0.521	
A4	Access to specialized technologies						
A5	Access to favourable locations						
A6	Government regulation policy					0.513	
A7	High operating costs					0.622	
A8	High costs of establishing the business					0.648	
A9	Price competition has been vigorous						
A10	Rivals' efforts to improve quality			0.555			
A11	Rivals' efforts to offer better custom service			0.763			

A12	Lots of advertising/sales promotion			0.748			
A13	Active product innovation			0.615			
A14	The rate of industry's growth			0.702			
A15	High fixed and operating costs to set-up the industry						
A16	There are few buyers						0.633
A17	Buyers don't purchase in large volume						0.571
A18	One buyers' purchase volume represent significant sales revenue						0.687
A19	Buyers face switching costs						0.507
A21	Buyers have good information about the industry						
A22	Textile and apparel products represent significant fraction of buyers costs						
A23	Firms can buy the inputs whenever they want						
A24	The producers are many compared to the available customers						0.509
A25	There are few substitutes for production inputs						
A26	Firms make specific investments to support transactions with specific input suppliers						
A27	There are costs of changing suppliers						
A28	Availability of substitute products				0.745		
A29	Low prices of second-hand clothes				0.753		
A30	Lack of barriers				0.722		
A31	Durability of imported clothes				0.782		
A32	Buyers preferences to buy						
A33	Purchasing power of buyers						
A34	Ability to develop culture that attract key staff		0.637				
A35	Ability to hire staff whose personality fits the company		0.745				
A36	Ability to acquire key qualifications suitable for the work		0.684				
A37	Ability to consider partner's skills in activities		0.742				
A38	Ability to acquire new technologies		0.666				
A39	Effective strategic leadership that is able to cope with the technological challenges		0.761				
A40	Adequate strategies for capacity building (investment in human capital)		0.626				
A41	Enhancing modern organizational culture		0.62				
A42	Inbound logistics	0.759					
A43	Ability to manage operations activities	0.787					
A44	Ability to manage outbound logistics	0.731					
A45	Ability to manage marketing and sales logistics	0.783					
A46	Ability to manage firm infrastructure	0.72					
A47	Ability to manage human resources	0.765					
A48	Ability to manage technology development	0.785					
A49	Use of research and development	0.697					
A50	Ability to manage procurement process	0.733					

Note: Throughout this study, the A_i indicates the micro variables

4.4.3 The Underlying Dimensions for the Micro Model

Based on the rotated factors, grouping of the values with the largest loading for the same factor was done. The extraction method used was principal component analysis and the factors were rotated using varimax with Kaiser Normalization. The finding for objective one indicates that the 50 variables that were used in the model were reduced into 39 variables clustered on six underlying factors which are value chain management practices, core competencies, competition, alternative products, barriers to entry and bargaining power of buyers.

$$.PC_1 = 0.759A_{41} + 0.759A_{42} + 0.787A_{43} + 0.731A_{44} + 0.783A_{45} + 0.72A_{46} + 0.765A_{47} + 0.785A_{48} + 0.697A_{49} + 0.733A_{50} \quad \textbf{(4)}$$

Factor One is made up of ability to manage operations activities, outbound logistics, marketing and sales logistics, firm infrastructure, human resources, technology development, research, procurement process and technology development. This factor is labelled as Value Chain Management Practices.

ANOVA statistics of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 57 percent. The model is significant at $p < 0.001$; therefore the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.10:

Table 4.10: ANOVA Results for the Firm Value Chain Management Practices

R	R Square	Adjusted R Square	Standard error	Change Statistics			
				R Square Change	F Change	df1	df2
0.757	0.572	0.553	0.578	0.572	28.847	9	194

F = 28.847; p < 0.001; df=194

Principal Component Two

$$PC_2 = 0.637A_{34} + 0.745A_{35} + 0.684A_{36} + 0.742A_{37} + 0.666A_{38} + 0.761A_{39} + 0.626\,A_{40} + 0.62A_{41} \quad \textbf{(5)}$$

Factor Two is made up of ability to develop culture that attract key staff, hiring staff whose personality fits the company, acquiring key qualifications suitable for the work, considering partner's skills in activities and acquiring new technologies; as well as effective strategic leadership that is able to cope with the technological challenges, adequate strategies for capacity building (investment in human capital), and enhancing modern organizational culture. Factor Two is named *Core Competencies.*

ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 28 percent. The model is significant at $p < 0.001$; therefore the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.11.

Table 4.11: ANOVA Results for the Core Competency

R	**R Square**	**Adjusted R Square**	**Standard error**	**Change Statistics**			
				R Square Change	F Change	df1	df2
0.535	0.287	0.261	0.584	0.287	11.257	7	196

F Statistic = 11.257; p < 0.001; df=203

Principal Component Three

$$PC_3 = 0.555A_{10} + 0.763A_{11} + 0.748A_{12} + 0.615A_{13} + 0.702A_{14} \quad \textbf{(6)}$$

Principal component Three is made up of rivals' efforts to improve quality, rivals' efforts to offer better customer service, lots of advertising/sales promotion, active product innovation and the rate of industry's growth. This factor is named *Competition.*

The ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 28 percent. The model is significant at $p < 0.001$; hence the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.12.

Table 4.12: ANOVA Results for the Competition

R	R Square	Adjusted R Square	Std. Error	Change Statistics			
				R Square Change	F Change	df1	df2
0.535	0.287	0.261	0.584	0.287	11.257	7	196

F Statistic = 16.57; p < 0.001; df=203

Principal Component Four

$$PC_4 = 0.745A_{28} + 0.753A_{29} + 0.722A_{30} + 0.782A_{31} \quad \textbf{(7)}$$

Factor Four is made up of availability of substitute products, low prices of second-hand clothes, lack of barriers and durability of imported clothes. This factor is named ***Alternative Products.*** The ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 33.5 percent. The Durbin Watson Statistic is 1.682 which is close to 2, showing the assumption of error correlation is acceptable.

The model is significant at $p < 0.001$. The null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.13.

Table 4.13: ANOVA Results for Alternative Products

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.579	0.335	0.315	0.683	0.335	16.569	6	197	0.000

F=16.57, $p < 0.001$, *Df=203*

Principal Component Five

$$PC_5 = 0.521A_3 + 0.513A_6 + 0.622A_7 + 0.648A_8 \quad \textbf{(8)}$$

Principal Component Five is made up of access to raw materials, high costs of establishing the business, government regulation policy and high operating costs. This factor represents *Barriers to Entry.* The ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 41 percent. Further, the Durbin Watson Statistic is 1.734 which is close to 2, showing the assumption of error correlation is acceptable. The model is significant at $p < 0.001$; hence the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.14.

Table 4.14: ANOVA Statistics for Barriers to Entry

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df	Sig. F Change
0.642	0.413	0.401	0.675	0.413	34.951	4	199	0.000

F=34.95, p < 0.001*; Df=203, DW = 1.734*

Principal Component Six

$$PC_6 = 0.633A_{16} + 0.571A_{17} + 0.687A_{18} + 0.507A_{19} + 0.509A_{24} \quad (9)$$

Principal Component Six is made up of; there are few buyers, buyers do not purchase in large volume, one buyers' purchase volume represent significant sales revenue, buyers face switching costs and the producers are many compared to the available customers. This factor is named *bargaining power of buyers.* The ANOVA Statistics shows that the percentage of variation in dependent variable explained by independent variables collectively is 11 percent. The Durbin Watson Statistic is 1.657 which is close to 2, showing the assumption of error correlation is acceptable. Further, the model is significant at p < 0.001; therefore the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.15.

Table 4.15: ANOVA Statistics for Bargaining Power of Buyers

R	R Square	Adjusted R Square	Std. Error	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.3347	0.112	0.09	0.847	0.112	4.995	5	198	0.000

F=4.995, p < 0.001; Df=203, DW = 1.657

4.5 Factor Analysis of the Macro Model

The previous section presented results for the micro model of competitive advantage. In this section the same procedures is repeated to discover the underlying dimensions of the macro model based on the Porter's Diamond Model. The aim is to complement the micro-economic model as elaborated under the conceptual framework. Therefore, this section addresses Objectives 2 of the study as regards exploring the underlying dimensions of macro competitive model. The null hypotheses for this purpose states that factor analysis cannot be used to analyze competitiveness diamond variables of the textiles and apparel industry in Tanzania. The alternative hypothesis states that factor analysis can be used in analyzing determinants of competitiveness in the industry at 5 percent significance level. The null hypothesis is rejected if the p-value is less than the significance level. Given that the p-value 0.00 is less than significance value 0.05 as shown in Table 4.16, the null hypotheses is rejected and therefore proceed with factor Analysis. The KMO value is 0.811 which is an excellent value to show that the sample is adequate for factor analysis.

Table 4.16: Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.811
Bartlett's Test of Sphericity	Approx. Chi-Square	3.325E3
	Df	630
	Sig.	0.000

Factor extraction based on Eigen values

Factor extraction was done to determine the factors using Eigen values greater than 1. Factors with Eigen values less than 1.00 were not used because they account for less than the variation explained by a single variable.

Table 4.17: Principal Component Analysis based on Five Factors

Component		Initial Eigenvalues			Rotation Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1.	8.100	28.822	28.822	5.966	21.228	21.228
	2.	2.487	8.849	37.671	2.831	10.075	31.303
	3.	2.074	7.381	45.052	3.274	11.648	42.951
	4.	1.875	6.672	51.725	2.189	7.788	50.738
	5.	1.347	4.791	56.516	1.624	5.777	56.516
Extraction Method: Principal Component Analysis							

Table 4.18: Rotated Component Matrix

S/N	Observed Variables	Component				
		1	2	3	4	5
M1	Skilled number of employees		0.617			
M2	Scientific, technical and market knowledge					
M3	High labour costs		0.645			
M4	Cost and accessibility of capital resources		0.615			
M5	Latest technology for production of quality textiles		0.513			
M6	Lack of research and training centres					
M7	Infrastructure (roads, railways, ports etc)		0.526			
M8	National and industry efforts for research and development investment					
M9	Absence of strong local demand		0.775			
M10	Desire and ability of Tanzania's to buy local textiles and apparel products		0.585			
M11	Inability to understand customer needs			0.730		
M12	Inability to produce quality clothes			0.751		
M13	Inability to produce varieties needed by Tanzanians			0.735		
M14	Inadequate accebility to buyers	0.639				
M15	Low size and growth of Tanzania's textile market			0.649		
M16	Low income of consumers			0.581		
M17	Lack of sophisticated and demanding local buyers	0.645				
M18	Lack of efficient, early, rapid preferential access	0.658				
M19	Poor linkages				0.526	
M20	Low development of value chains	0.543				
M21	Poor information flow				0.695	
M22	Inadequate cluster programme				0.610	
M23	Lack of business strategy	0.644				
M24	Non-existence of strong domestic competitors	0.644				
M25	Attitudes of workers towards textiles and apparel management	0.750				
M26	The quality of human resources	0.684				
M27	Government regulatory framework					0.540
M28	Social norms of workers and managerial attitudes					0.545
M29	Limited FDI					0.518
M30	Type of education	0.829				
M31	Process and products upgrading	0.732				
M32	Ability of firms to position in domestic and foreign markets	0.785				
M33	To design policies for industry competitiveness					
M34	To regulate the industry					0.698
M35	To have minimum intervention, and leave market forces work	0.707				
M36	To forbid imports of second hand clothes				0.617	
X37	The government to deal with corrupt practices in the industry					
M38	To invest directly in building textiles and apparel factories					
M39	To provide subsidies and other assistances					
M40	To negotiate for good market access conditions			0.511		
M41	To provide subsidies to enable local firms to compete					
M42	To build capacities for local firms to innovate					

Note: *Throughout this study, the M_i indicates the macro variables, as defined in this Table*

The 42 variables used in the analysis were reduced into five principal components accounting for 56.5% of the total variance which are the factor conditions; firm strategy, structure and rivalry; related and supporting industries and the role of the government, as shown in Table 4.17; and the rotated matrix is shown in Table 4.18.

4.5.1 Factor Interpretation of Macro Model

Based on Rotated Component Matrix shown in Table 4.18, factor equations are written based on the loadings of the principal components. Consequently, factor equation for factor one is summarized in the following equation.

Factor One: Demand Conditions

$$F_1 = 0.639M_{14} + 0.645M_{17} + 0.658M_{18} + 0.543M_{20} + 0.644M_{23} + 0.644M_{24} + 0.750\ M_{25} + 0.684\ M_{26} + 0.829\ M_{30} + 0.732\ M_{31} + 0.785\ M_{32} + 0.707\ M_{35} \quad \textbf{(10)}$$

Factor One comprises inadequate accessibility to buyers, low income of consumers, lack of sophisticated and demanding local buyers; lack of efficient, early, rapid preferential access; low development of value chains; lack of business strategy, non-existence of strong domestic competitors, attitudes of workers towards textiles and apparel management, the quality of human resources, type of education, process and products upgrading, ability of firms to position in domestic and foreign markets and the government to have minimum intervention, and leave market forces work. This factor is named *Demand Conditions***.**

The ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is

21 percent. The Durbin Watson Statistic is 1.693 which is close to 2, showing the assumption of error correlation is acceptable. Further, the F-Change Statistics for this construct are all significant; and the model is significant at $p < 0.001$. Therefore, the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.19.

Table 4.19: ANOVA Statistics of Demand Conditions

R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
			R Square Change	F Change	df1	df2	Sig. F Change
0.2192	0.170	0.910	0.2192	4.47	12	191	0.000

F=4.47, p < 0.001; Df=203, DW = 1.693

Factor Two: Factor Conditions

$$F_2 = 0.619M_1 + 0.645M_3 + 0.615M_4 + 0.513M_5 + 0.526M_7 + 0.775M_9 + 0.585\ M_{10} \quad \textbf{(11)}$$

Factor Two is made up skilled number of employees, labour costs, cost and accessibility of capital resources, latest technology for production of quality textiles, infrastructure (roads, railways, ports etc), absence of strong local demand, desire and ability of Tanzania's to buy local textiles and apparel products. These variables represent the *Factor Conditions.*

Again, ANOVA Statistics to show validity of factor conditions shows that the percentage of variation in dependent variable explained by independent variables collectively is 16 percent. The Durbin Watson Statistic is 1.894 which is close to 2

as required; showing the assumption of error correlation is acceptable. The model is significant at $p < 0.001$; therefore, the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.20.

Table 4.20: ANOVA Statistics of Factor Conditions

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.404	0.164	0.133	0.643	0.164	5.477	7	196	0.000

F=5.447, $p < 0.001$; *Df=203; DW=1.894*

Factor Three: Firm Strategy, Structure and Rivalry

$$F_3 = 0.730M_{11} + 0.751M_{12} + 0.735M_{13} + 0.649M_{15} + 0.581M_{16} \quad \textbf{(12)}$$

Factor three consists of inability to understand customer needs, inability to produce quality clothes compared to imported ones, inability to produce varieties needed by Tanzanians, low growth of Tanzania's textile market and low income of consumers. This factor represents *Firm Strategy, Structure and Rivalry.* ANOVA Statistics shows that the percentage of variation in dependent variable explained by independent variables collectively is 34.5 percent. The Durbin Watson Statistic is 1.5 which is close to 2; showing the assumption of error correlation is also acceptable. The model is significant at $p < 0.001$; therefore, the null hypothesis that the model has no explanatory power is rejected at 0. 001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.21.

Table 4.21: ANOVA Statistics for Rivalry

R	R Square	Adjusted R Square	Std. Error	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.587	0.345	0.311	0.574	0.345	10.168	10	193	0.000

F=10.2; p < 0.001, Df=203, DW= 1.5

Factor Four: Related and Supporting Industries

$$F_4 = 0.526_{19} + 0.695M_{21} + 0.610M_{22} + 0.617M_{36} \quad (13)$$

Factor four constitutes poor linkages, poor information flow among companies, inadequate cluster programmes and forbidding imports of second hand clothes. This factor represents *Related and Supporting Industries*. ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 30 percent. The Durbin Watson Statistic is 1.54 which is tolerably good; showing the assumption of error correlation is acceptable. The model is significant at $p < 0.001$. The null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.22.

Table 4.22: ANOVA Statistics for Related and Supporting Industries

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
0.5558	0.308861	0.29140	0.8049540	0.308861	17.6967	5	198	0.000

F=16.1, p < 0.001; Df=198, DW=1.54

Factor Five: The Role of Government

$$F_5 = 0.540M_{27} + 0.545M_{28} + 0.518M_{29} + 0.698M_{34} \quad (14)$$

Factor five is made up of government regulatory framework, social norms of workers and managerial attitudes, limited Foreign Direct Investments, and the role of the government to regulate the industry. This factor represents the *Role of Government.* ANOVA Statistics to show validity of this construct shows that the percentage of variation in dependent variable explained by independent variables collectively is 28 percent. The model is significant at $p < 0.001$; hence the null hypothesis that the model has no explanatory power is rejected at 0.001 level of significance. It implies that the independent variables collectively have power to explain the variation in the dependent variable as shown in Table 4.23.

Table 4.23: ANOVA Statistics for the Role of Government

R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
				R Square Change	F Change	df1	df2	Sig. F Change
0.529	0.280	0.266	0.685	0.281	19.412	4	199	0.000

F=19.4, p < 0.001; Df=203, DW=1.54

4.6 SEM Analysis of the Micro Model

Objective 3 entails finding out whether the variables of the micro-structural competitive model combine to estimate a population covariance matrix which is similar to the sample covariance matrix.

As explained in the methodology chapter, the rotated component matrix developed and analyzed in objective 1 of this study during EFA process was the basis of the SEM analysis. Each construct was analyzed based on absolute fit indices and relative (incremental fit index). The absolute fit indices that used were Chi-square ($\chi 2$)

statistic, the Goodness-of-Fit Index (GFI), the Root Means Square Residual (RMSR) and the Root Mean Square Error of Approximation (Appendix 5 has shown the accepted threshold of the indices).

Further, throughout the study, the relationship between the latent constructs and indicators (A_1, $A_2 \ldots A_n$) used in the micro model, and M_1, $M_2 \ldots M_n$ used in the macro model in the later sections denotes the reflective measurement, where the latent constructs are considered to have influence on the indicators (Edward and Joost, 2012). Ulman (2006) explains the theoretical implication that the latent constructs (independent variables) drive the degree of agreement with the statements representing the indicators (dependent variables).

The indicators, in rectangles, are predicted by the latent variables. Given that measurement of indicators may be affected by inaccuracies in measurement, it follows that the factor does not predict the indicators perfectly: this is taken into account by the error terms, (Ullman, 2006). The numbers attached in each row are the correlation coefficients between the constructs and the indicators: the positive (or negative) signs indicate positive (negative) correlation between the latent constructs and the indicators, or among the error terms.

4.6.1 Value Chain Management Practices

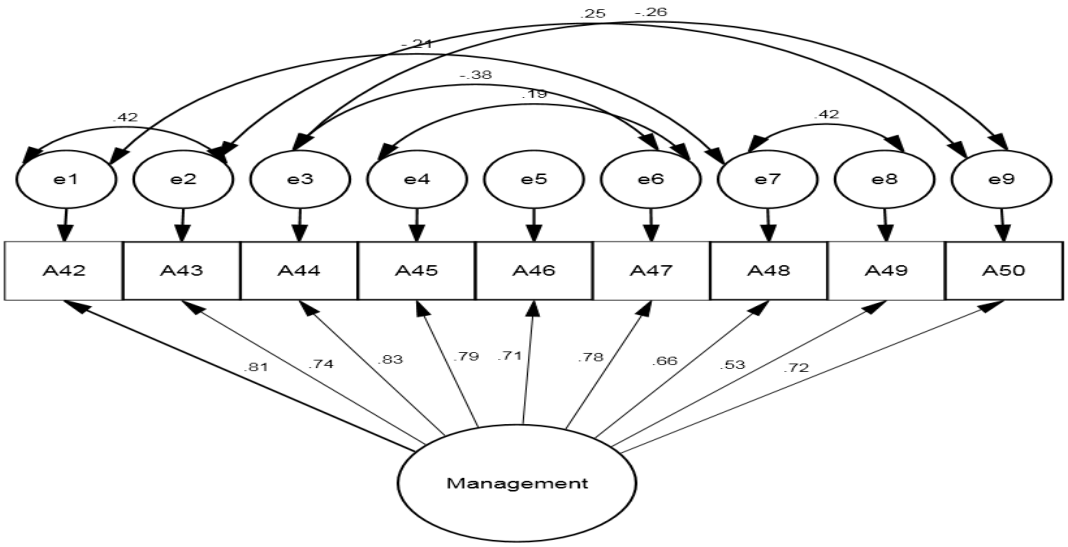
Enterprise Management as a latent construct was hypothesized to be a one-dimensional construct measured by nine items A42 to A50 with items indicated in Table 4.24.

Table 4.24: Measures for Value Chain Management Practices

Item Code	Item Description
A42	Inbound logistics
A43	Ability to manage operations activities
A44	Ability to manage outbound logistics
A45	Ability to manage marketing and sales logistics
A46	Ability to manage firm infrastructure
A47	Ability to manage human resources
A48	Ability to manage technology development
A49	Use of research and development
A50	Ability to manage procurement process

The order condition shows that the number of free parameters to be estimated is 34 which is less than the number of distinct values in the matrix S, which is 54; implying that the degree of freedom is 20. The measurement model met the identification condition. Therefore, the next step CFA was used to assess the measurement model validity of this construct (Nguyen, 2010). The initial results of CFA showed that the model fit did not satisfy the fitness conditions. The model fit was improved by co-varying the residuals corresponding with the items measured; and the following error covariances were done: e_1 and e_2; e_1 and e_7; e_2 and e_9; e_3 and e_7; e_3 and e_9; e_4 and e_6; and e_7 and e_8 (Note that model modification process allows covariance of errors with big residuals to improve model fit indices (Schumacker and Lomax, 2004). As the result of these modifications, the fit indices improved: the CMIN/df=1.303 and the p-value=0.164 which is non-significant, a condition which must be met for a good fit (for clarity, the *p* value should be greater than 0.05 and RMSEA value must be close to 0 for a good fit for a good model fit as indicated in Appendix 6.

The CFI value is 0.993 and GFI value is 0.966; all provides an excellent model fit. The RMSEA value, the measure of badness of fit, improved to 0.044. The revised CFA output shows that all items have positive loading ranging from 0.53 to 0.83. The model fit results shows that the firm's ability to manage inbound and outbound logistics, operations activities, marketing and sales logistics, firm infrastructure, human resources, technology development, research and development and procurement process are fundamental aspects for the firm to attain competitive advantage as indicated in the path diagram in Figure 4.2.



CMIN/df=1.303; p-Value=0.164; CFI=0.993; GFI=0.966; RMSEA=0.044

Figure 4.2: CFA Results for Value Chain Management Practices

In light of scalar notation indicated in section, the full set of equations for this construct becomes:

$$A_{42} = 0.81\ VCMP + e_1; \qquad A_{43} = 0.74\ VCMP + e_2$$
$$A_{44} = 0.83\ VCMP + e_3; \qquad A_{45} = 0.79\ VCMP + e_4$$
$$A_{46} = 0.71\ VCMP + e_5; \qquad A_{47} = 0.78\ VCMP + e_6$$
$$A_{48} = 0.66\ VCMP + e_7; \qquad A_{49} = 0.72\ VCMP + e_8$$
$$A_{50} = 0.72\ VCMP + e_9; \qquad \textbf{(15)}$$

4.6.2 Core Competency

Core Competency as a latent construct was hypothesized to be a one-dimensional construct measured by eight items A34 to A41 with the following items:

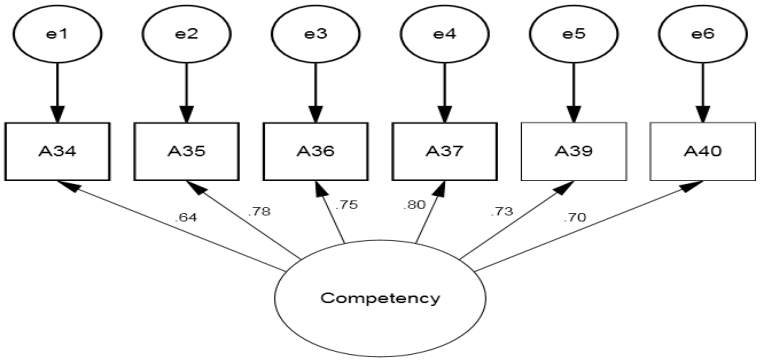
Table 4.25: Measures for Core Competency

Item Code	Item Description
A34	Ability to develop culture that attract key staff
A35	Ability to hire staff whose personality fits the company
A36	Ability to acquire key qualifications suitable for the work
A37	Ability to consider partner's skills in activities
A38	Ability to acquire new technologies
A39	Effective strategic leadership that is able to cope with the technological challenges
A40	Adequate strategies for capacity building (investment in human capital)
A41	Enhancing modern organizational culture

The order condition shows that the number of free parameters to be estimated is 12 which is less than the number of distinct values in the matrix S, which is 22. The degree of freedom is therefore 10, and the measurement model met the identification condition. Confirmatory factor analysis was conducted to assess the measurement model validity of this construct (Nguyen, 2010). The initial results of CFA shows that the model fit indices satisfied the fitness conditions. The CMIN/df=1.799 and the p-value=0.15 which is non-significant, a condition which must be met for a good fit. The CFI value is 0.968 which provides an excellent model fit, the RMSEA value, the measure of badness of fit, is 0.072.

The model fit indices were improved by dropping two of the items with smallest loading, A37 and A41 with loadings of 0.52 and 0.53 respectively. The refined CFA

output showed that all items had positive loading ranging from 0.64 to 0.80; and modification indices were improved: The p-value=0.159 which is non-significant, the CFI value is 0.99 which is an excellent fit; the RMSEA value, the measure of badness of fit, improved to 0.054. The findings indicate that firms need to enhance their abilities to develop human resources plans to attract competent staff with personalities that fit the company, considering partner firms' skills in firm activities, embarking effective strategic leadership to cope with the technological challenges and strategies for capacity building (investment in human capital).



CMIN/df=1.799; p-Value=0.159; CFI=0.99; GFI=0.97; RMSEA=0.054

Figure 4.3: CFA Results for Core Competency

The equations representing this competency, abbreviated as CM, with respect to the observed variables become:

$$A_{34} = 0.64CM + e_1; \qquad A_{35} = 0.76CM + e_2;$$
$$A_{36} = 0.75CM + e_3; \qquad A_{37} = 0.80\ CM + e_4;$$
$$A_{39} = 0.73\ CM + e_5; \qquad A_{40} = 0.70\ CM + e_6 \qquad \textbf{(16)}$$

4.6.3 Competition

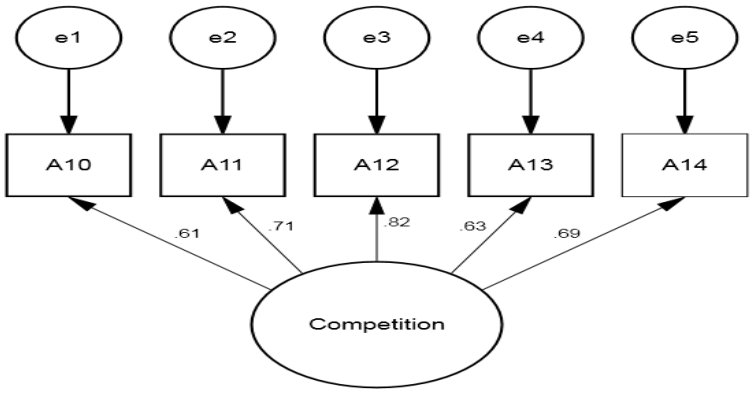
Competition as a latent construct was hypothesized to be a one-dimensional construct measured by eight items A10 to A14 with the following items:

Table 4.26: Measures for Competition

Item Code	Item Description
A10	Rivals' efforts to improve quality
A11	Rivals' efforts to offer better custom service
A12	Lots of advertising/sales promotion
A13	Active product innovation
A14	The rate of industry's growth

Source: Field Data (2015)

The order condition shows that the number of free parameters to be estimated is 10 which is less than the number of distinct values in the matrix S, which is 15; and the degree of freedom is 5. The measurement model met the identification condition. Confirmatory factor analysis was then conducted and showed that the model fit indices satisfied the fitness conditions. The CMIN/df=1.905 and the p-value=0.09 which is slightly greater that 0.05 satisfying the non-significance condition which must be met for a good fit. The CFI value is 0.982, the GFI value is 0.977; all provides an excellent model fit, and the RMSEA value, the measure of badness of fit, is 0.077.



CMIN/df=1.799; p-Value=0.90; CFI=0.982; GFI=0.977; RMSEA=0.077

Figure 4.4: CFA Results for Competition

The loadings of the items ranged from 0.61 and 0.82 which provides for the satisfactory loadings. Being satisfied with the results, the items were confirmed to measure the competition construct. The results reveals that rivals' efforts to improve quality, offering better custom services, increasing promotion campaigns of their products, active product innovation and industry's growth are the key variables affecting competition in Tanzania.

The equations representing competition, abbreviated as RV, with respect to the observed variables become:

$$A_{10} = 0.61\ RV + e_1; \qquad A_{11} = 0.71\ RV + e_2;$$

$$A_{12} = 0.82\ RV + e_3; \qquad A_{13} = 0.63\ RV + e_4;$$

$$A_{14} = 0.69\ RV + e_5; \qquad \textbf{(17)}$$

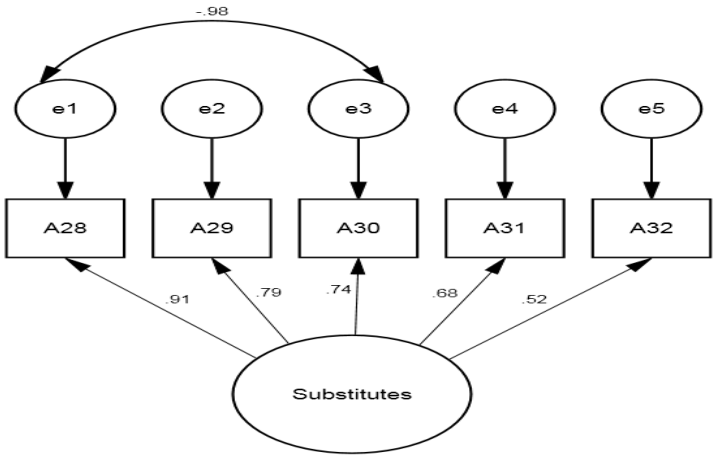
4.6.4 Alternative Products

An alternative product as a latent construct was hypothesized to be a one-dimensional construct measured by eight items A28 to A32 with the following items:

Table 4.27: Measures for Alternative Products

Item Code	Description
A28	Availability of substitute products
A29	Low prices of second-hand clothes
A30	Lack of barriers
A31	Durability of imported clothes
A32	Buyers preferences to buy

The order condition shows that the number of free parameters to be estimated is 11 which is less than the number of distinct values in the matrix S, which is 15; implying that the degree of freedom is 4. Therefore, the measurement model of this construct met the identification condition. The CFA was conducted to assess the measurement model validity of this construct. The initial results showed that the model fit indices did not satisfy the fitness conditions. After testing several modification diagnostics, it was found that the fitness could be improved by co-varying errors e_1 and e_3. Consequently, the model results showed a significance values: the CMIN/df=1.77 and the p-value=0.132 which satisfies the non-significance condition. The CFI value associated with this value is 0.99, the GFI value is 0.982; all provides an excellent model fit, and the RMSEA value, the measure of badness of fit, was=0.071. The improved loadings of the items range from 0.52 and 0.91; which provides for the satisfactory significances. The construct validity therefore passed all tests and it is a reliable model.



CMIN/df=1.77; p-Value=0.132; CFI=0.990; GFI=0.982; RMSEA=0.071

Figure 4.5: CFA Results for Alternative Products

Again, the equations representing alternative products, abbreviated as AP, with respect to the observed variables become:

$A_{28} = 0.91\ AP + e_1;$ $A_{29} = 0.79\ AP + e_2;$

$A_{30} = 0.74\ AP + e_3;$ $A_{31} = 0.68\ AP + e_4;$

$A_{32} = 0.52\ AP + e_5;$ ***(18)***

4.6.5 Barriers to Entry

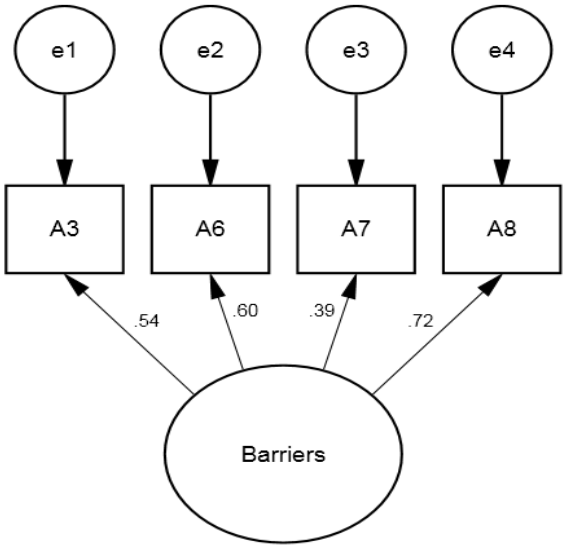
Barriers to Entry as a latent construct were hypothesized to be a one-dimensional construct measured by eight items A3, A6-A8 with the following items:

Table 4.28: Measures for Barriers to Entry

Item Code	Item Description
A3	Access to raw materials
A4	Access to specialized technologies
A5	Access to favourable locations
A6	Government regulation policy
A7	High operating costs
A8	High costs of establishing the business

The order condition shows that the number of free parameters to be estimated is 8 which is less than the number of distinct values in the matrix S, which is 10; implying that the degree of freedom is 2. The measurement model of this construct met the identification condition. Further, confirmatory factor analysis was conducted to assess the measurement model validity of this construct and revealed that the indices satisfied the fitness conditions. The model results showed significant values: the CMIN/df=4.72 and the p-value=0.624 which satisfies the non-significance condition. The CFI value associated with this value is 1.00, the GFI value is 0.997; all provides an excellent model fit; and the RMSEA value, the measure of badness of

fit, is excellent at 0.00. The improved loadings of the items range from 0.39 and 0.72. The construct validity passed all tests and it is a reliable model. The findings indicates that access to raw materials, specialized technologies and favourable locations; government's regulation policy and high cost of doing business have been found to be the most important variables.



CMIN/df=4.72; p-Value=0.624; CFI=0.1.00; GFI=0.997; RMSEA=0.00

Figure 4.6: CFA Results for Barriers to Entry

For the barriers to entry, abbreviated as ET, the equation of this construct with respect to the observed variables become:

$$A_3 = 0.54\ ET + e_1; \qquad A_6 = 0.60\ EP + e2;$$

$$A_7 = 0.4\ EP + e3; \qquad A_8 = 0.72\ ET + e4; \qquad \textbf{(19)}$$

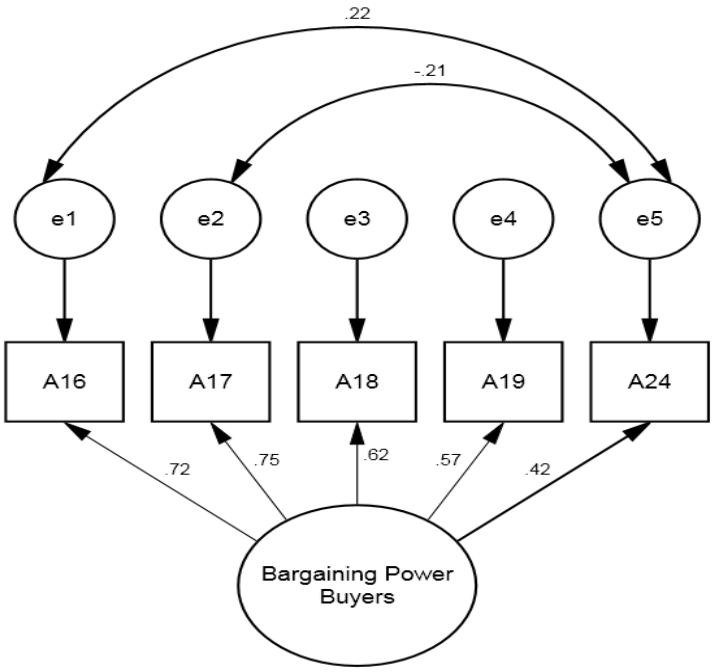
4.6.6 Bargaining Power of Buyers

Bargaining Power of Buyers as a latent construct hypothesized to be a one-dimensional construct measured by five items A23 to A27 with the following items:

Table 4.29: Measures for Bargaining Power of Buyers

Item Code	Item Description
A16	There are few buyers
A17	Buyers don't purchase in large volume
A18	One buyers' purchase volume represent significant sales revenue
A19	Buyers face switching costs
A24	The producers are many compared to the available customers

The order condition shows that the number of free parameters to be estimated is 12 which is less than the number of distinct values in the matrix S, which is 15; implying that the degree of freedom is 3. The measurement model of this construct met the identification condition. The initial results of CFA showed that the model fit indices could be improved by co-varying the residuals associated with items A16 and A24, as well as A17 and A24. The results show a significance values: the CMIN/df=0.948 and the p-value=0.416 which satisfies the non-significance condition. The CFI value associated with this value is 1.00, the GFI value is 0.993, the RMSEA value is 0.00; all provide an excellent model fit. The loadings of the items ranged from 0.42 and 0.72 which provides for the satisfactory significances. The construct validity therefore passed all tests and it was a reliable model. As regards bargaining power of buyers, it has been found that buyers are few (most of Tanzanians buys foreign imported clothes) and their purchases are not in large scale, meaning that most of purchases buys in small quantities and the leverage of buyers in terms of sales of a textile firm is not significant. The other variables, buyers face switching costs and that producers are many compared to the customers, are not relevant items with theoretical sense, and therefore have been dropped in interpretation stage.



CMIN/df=0.948; p-Value=0.416; CFI=1.00; GFI=0.993; RMSEA=0.000

Figure 4.7: CFA Results for Bargaining Power of Buyers

For the bargaining power of buyers, abbreviated as BPB, the equation of this construct with respect to the observed variables becomes:

$A_{16} = 0.72\ BPB + e_1;$ $A_{17} = 0.75\ BPB + e_2;$

$A_{18} = 0.62\ BPB + e_3;$ $A_{19} = 0.57\ BPB + e_4;$

$A_{24} = 0.42\ BPB + e_5;$ ***(20)***

4.6.7 Structural Model on Micro Variables

According to Edward and Joost (2012), 'the structural model in a SEM context is the full model, specifying both the constructs with their indicators and the causal relationships between the constructs. Figure 4.8 shows the results of the micro structural model.

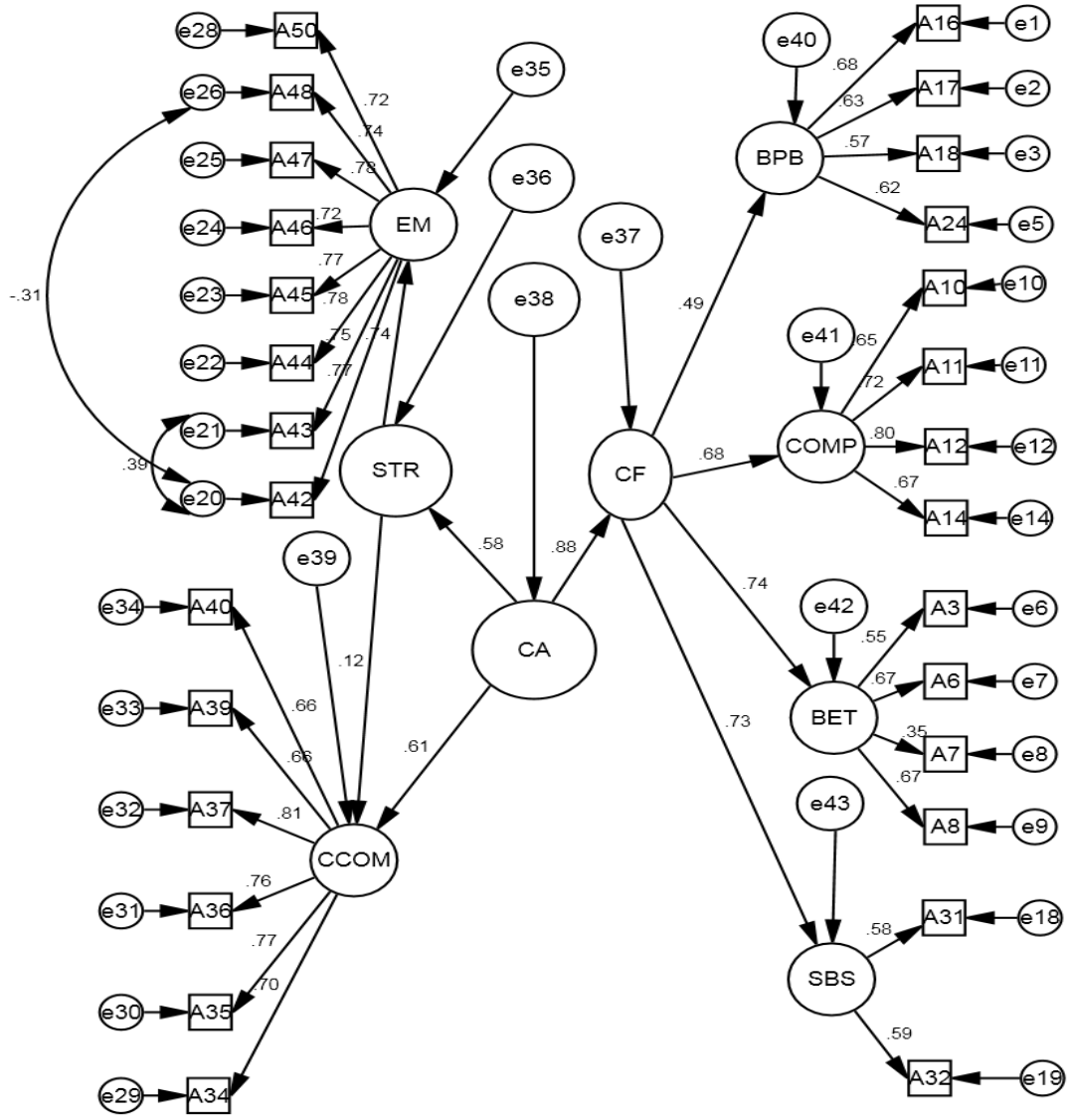


Figure 4.8: The Micro Structural Model of Competitiveness Constructs
Source: Authors Computation using the AMOS Software

Critical analysis of Figure 4.8 show the following relationships:

First, the industry structure has a strong positive relationship with barriers to entry, with a standardized path coefficient of 0.95. The more favorable the industry structure, the more intense barriers to entry. The favorable industry structure leads to intense competition as many firms enter the industry, which ultimately leads to firms imposing barriers to entry.

Second, the industry structure has a strong positive relationship with rivalry, with a standardized path coefficient of 0.91. The more favorable the industry structure, the more intense the rivalry. This finding is theoretically supported as favorable industry structure brings about high competition as firms compete for profit.

Third, the industry structure has a strong positive relationship with bargaining power of buyers, with a standardized path coefficient of 0.87. The more favorable the industry structure, the more leverage the buyers have to bargain. As the industry structure becomes favourable, it leads to high competition as already established, and this gives leverage to buyers to bargain for better terms.

Fourth, the industry structure has a strong positive relationship with substitutes, with a standardized path coefficient of 0.95. The more favorable is the industry structure, the greater are availability of substitutes as this leads to many firms entering the industry, leading to competition and availability of substitutes.

Fifth, enterprise management has a strong positive relationship with industry structure, with a standardized path coefficient of 0.70. The more efficient the corporate are managed, the more favourable the industry structure (and profitability) and this contributes to make the overall industry competitiveness environment more favourable.

Lastly, Competitive advantage has a strong positive relationship with strategy as a mediating latent variable determining enterprise management and core competency; and has a standard path coefficient of 0.75. This implies that in strategy formulation,

firms should take on board all elements of value chain management practices and core competencies, which are well supported by the theory.

4.7 SEM Analysis of the Macro Model

The fourth objective entails finding out whether the parameters of the macro-structural competitive model combine to estimate a population covariance matrix which is similar to the sample covariance matrix. After assessing the results associated with the micro model of the study, confirmatory factor analysis based on the pattern matrix developed for the macro model was undertaken. The model parameters of the macro model were analyzed using AMOS 21 software to assess the extent to which the Diamond constructs reproduces the variance-covariance matrix among the indicator variables. Each construct was analyzed based on absolute fit indices and relative (incremental fit index). SEM was also used to compute and assess the fit indices of both measurement and structural model, as presented under section 4.7.1 and 4.7.2.

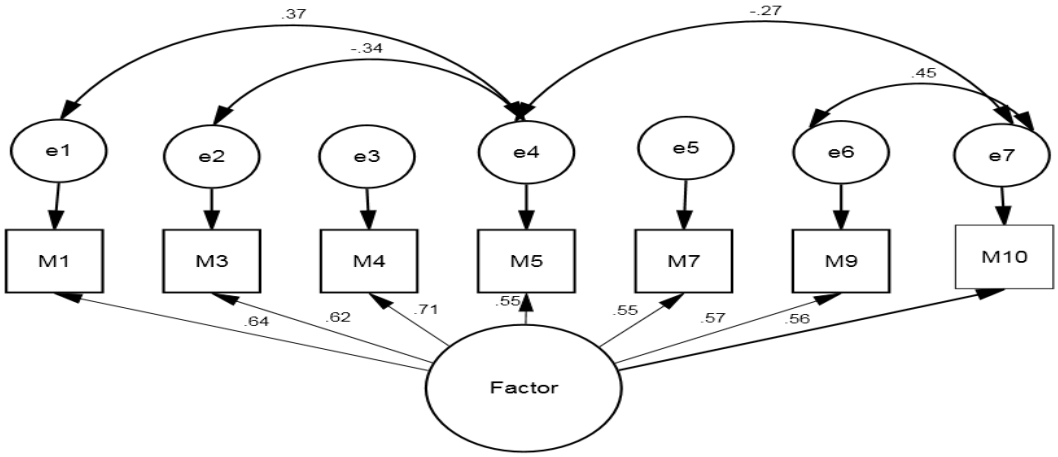
4.7.1 Factor Conditions

From the pattern matrix developed during EFA stage, the item measures of firm strategy, structure and rivalry are shown in Table 4.30.

Table 4.30: Measures for Factor Conditions

Item Code	Item Description
M1	Skilled number of employees
M2	High labour costs
M4	Cost and accessibility of capital resources
M5	Latest technology for production of quality textiles
M7	Infrastructure (roads, railways, ports etc)
M9	Absence of strong local demand
M10	Desire and ability of Tanzanians to buy local textiles and apparel products

The order condition shows that the number of free parameters to be estimated is 18 which is less than the number of distinct values in the matrix S, which is 28; implying that the degree of freedom is 10. The measurement model of this construct met the identification condition. Further, the CFA results shows that the p-value of 0.308, suggesting that the model is significant. The value for Goodness of Fit Index (GFI) stands at 0.973, which is strong. The value of incremental fit index, CFI, is 0.993 and the RMSEA (badness of fit) carries a value of 0.04. All these indices supports factor conditions embedded in the Porter's model. Therefore, the null hypothesis that factor conditions are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania is rejected and the alternative hypothesis that factor conditions are statistically significant is accepted. The CFA results show that the factor conditions consist of the following variables which are important for competitive advantage: skilled number of employees, high labour costs, cost and accessibility of capital resources, latest technology for production of quality textiles and infrastructure (roads, railways, ports etc).



CMIN/df =1.167; p-Value=0.308; CFI=0.993; GFI=0.973; RMSEA=0.04

Figure 4.9: The Model Fit Indices for Factor Conditions

The two variables: absence of strong local demand and desire and ability of Tanzanians to buy local textiles and apparel products were not interpreted as they are relevant to the demand conditions construct. The Path diagram of this construct and the correlations among the error terms is shown in Figure 4.9.

The series of equation representing the factor conditions, abbreviated as FC, are as follows:

$$M_1 = 0.64\ FC + e_1; \qquad M_3 = 0.62\ FC + e_2;$$
$$M_4 = 0.71\ FC + e_3; \qquad M_5 = 0.55\ FC + e_4;$$
$$M_7 = 0.55\ FC + e_5; \qquad M_9 = 0.57\ FC + e_6$$
$$M_{10} = 0.56\ FC + e_7 \qquad \textbf{(21)}$$

4.7.2 Firm Strategy, Structure and Rivalry

From the pattern matrix developed during EFA stage, the item measures of firm strategy, structure and rivalry are as follows:

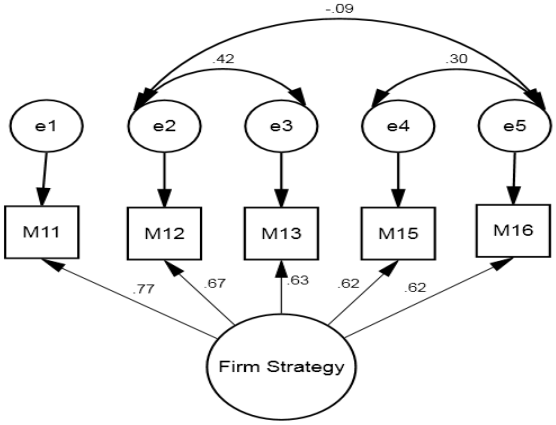
Table 4.31: Measures for Firm Strategy, Structure and Rivalry

M11	Inability to understand customer needs
M12	Inability to produce quality clothes
M13	Inability to produce varieties needed by Tanzanians
M15	Low size and growth of Tanzania's textile market
M16	Low income of consumers

The order condition shows that the number of free parameters to be estimated is 13 which is less than the number of distinct values in the matrix S, which is 15. The measurement model of this construct met the identification condition, and the degree

of freedom is 2. The CFA results show that the chi-square p-value is 0.992 suggesting that the model is significant. The value for Goodness of Fit Index (GFI), an absolute fit index, was found to be perfect with a value of 1.00 which is an excellent fit; the value of CFI, the incremental fit index CFI was also excellent at 1.00; and the RMSEA (badness of fit) value was also excellent at 0.00. All these indices supports that the model of firm strategy, structure and rivalry supports the construct embedded in the Porter's model.

In other words, the null hypothesis that firm strategy, structure and rivalry is not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania is rejected and the alternative hypothesis that firm strategy, structure and rivalry are statistically significant is accepted. It has been established that inability to understand customer needs, inability to produce quality clothes, inability to produce varieties needed by Tanzanians, low size and growth of Tanzania's textile market and low income of consumers are the key determinants of this construct, and the Path diagram of this construct and the correlations among the error terms is shown in Figure 4.10.



CMIN/df=0.08; p-Value=0.992; CFI=1.00; GFI=1.00; RMSEA=0.00

Figure 4.10: Model Fit Indices for Firm Strategy, Structure and Rivalry

Again, the series of equations representing the firm strategy, structure and rivalry, denoted by FSR, are as follows:

$$M_{11} = 0.77\ FSR + e_1; \qquad M_{12} = 0.67\ FSR + e_2;$$

$$M_{13} = 0.63\ FSR + e_3; \qquad M_{15} = 0.62\ FSR + e_4;$$

$$M_{16} = 0.55\ FSR + e_5 \qquad \textbf{(22)}$$

4.7.3 Model Fit Indices for Demand Conditions

From the pattern matrix developed during EFA stage, the item measures of demand conditions are as follows:

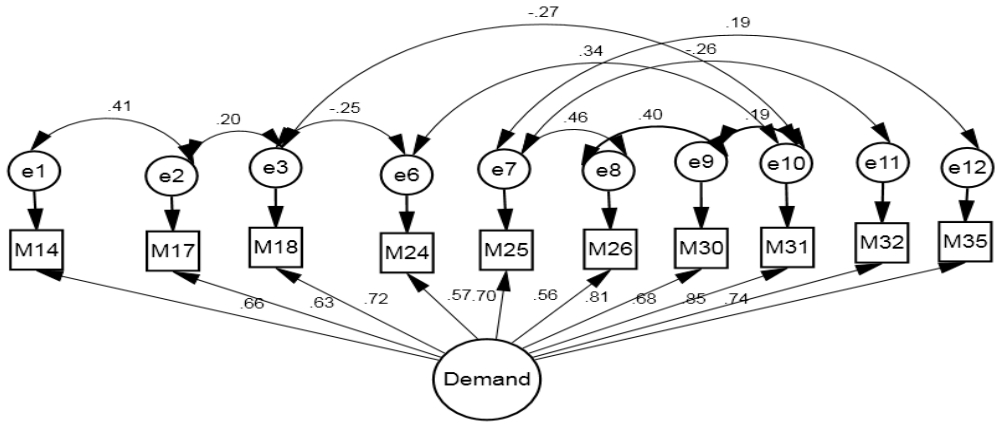
Table 4.32: Item Measure for Demand Conditions

M14	Inadequate accessibility to buyers
M17	Lack of sophisticated and demanding local buyers
M18	Lack of efficient, early and rapid preferential access
M24	Non-existence of strong local competitors
M25	Attitudes of workers towards management
M26	The quality of human resources
M30	Type of education
M31	Process and product upgrading
M32	Ability of firms to position in domestic and foreign markets
M35	The government to have minimum intervention, and leave market forces work

The order condition shows that the number of free parameters to be estimated is 30 which is less than the number of distinct values in the matrix S, which is 55; implying that the degree of freedom is 25. The measurement model of this construct met the identification condition. The CFA results reveal that the chi-square p-value is 0.22 suggesting that the model is significant. The value for Goodness of Fit Index (GFI), an absolute fit index, is 0.947 which is a good fit; the value of CFI, the

incremental fit index, CFI is 0.991 which is also a good fit; and the RMSEA (badness of fit) value is 0.049. All these indices supports that the measurement model of firm demand conditions supports this construct embedded in the Diamond model. The null hypothesis that demand conditions are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania is rejected and the alternative hypothesis that demand conditions are statistically significant is accepted.

It has been established that inadequate accessibility to buyers, lack of sophisticated and demanding local buyers; lack of efficient, early and rapid preferential access; and non-existence of strong local competitors are key items for the demand conditions. The others are the quality of human resources, type of education, process and product upgrading, ability of firms to position in domestic and foreign markets and the government to have minimum intervention, and leave market forces work. The variable "attitudes of workers towards management" was dropped in interpretation as this is not theoretical relevant on this construct. The path diagram of this construct and the correlations among the error terms is shown in Figure 4.11.



CMIN/df=1.205; p-Value=0.220; CFI=0.991; GFI=0.947; RMSEA=0.049

Figure 4.11: Model Fit Indices for Demand Conditions

Again, the series of equations representing demand conditions, denoted by DC, are as follows:

$$M_{14} = 0.66\ DC + e_1; \qquad M_{17} = 0.63\ DC + e_2;$$
$$M_{18} = 0.72\ DC + e_3; \qquad M_{24} = 0.57\ DC + e_6;$$
$$M_{25} = 0.70\ DC + e_7 \qquad M_{26} = 0.56\ DC + e_8;$$
$$M_{30} = 0.81\ DC + e_9; \qquad M_{31} = 0.68DC + e_{10};$$
$$M_{32} = 0.85\ DC + e_{11}; \qquad M_{35} = 0.74\ DC + e_{12} \qquad \textbf{(23)}$$

4.7.4 Related and Supporting Industries

From the pattern matrix developed during EFA stage, the item measures of related and supporting industries are as follows:

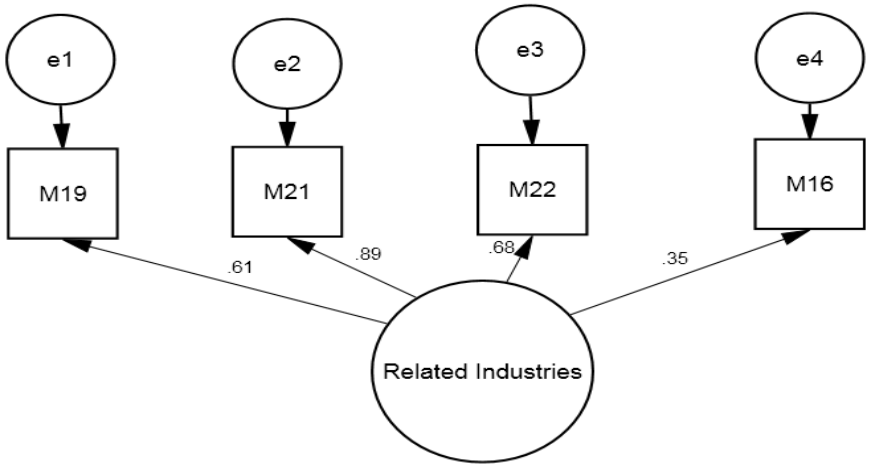
Table 4.33: Item Measure for Related and Supporting Industries

M19	Poor Linkages
M21	Poor information flow
M22	Inadequate cluster programmes
M36	To forbid imports of second hand clothes

The order condition shows that the model is identified with 2 degree of freedoms, given that the number of free parameters to be estimated is 8 which is less than the number of distinct values in the matrix S, which is 10. The CFA test results show that the chi-square p-value is 0.615 suggesting that the model is significant. The value for Goodness of Fit Index (GFI), an absolute fit index, is 0.999 which is an excellent fit; the value of CFI, the incremental fit index CFI is 1.00 which is also an excellent fit, and the RMSEA (badness of fit) value is 0.00.

All these indices supports the measurement model of related and supporting industries construct embedded in the PDM. The null hypothesis that related and

supporting industries are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania is rejected and the alternative hypothesis is approved. It has been found that poor linkages, poor information flow, inadequate clusters programme and forbidding the imports of second hand clothes are the key variables for the related and supporting industries; and the path diagram of this construct and the correlations among the error terms is shown in Figure 4.12.



CMIN/df=0.254; p-Value=0.615; CFI=1.00; GFI=0.999; RMSEA=0.00

Figure 4.12: Model Fit Indices for Related Industries

For the related and supporting industries, denoted by RS, the equations are as follows:

$$M_{19} = 0.61\ RS + e_1; \qquad M_{21} = 0.89\ RS + e_2;$$

$$M_{22} = 0.68\ RS + e_3; \qquad M_{16} = 0.35\ RS + e_4 \qquad \textbf{(24)}$$

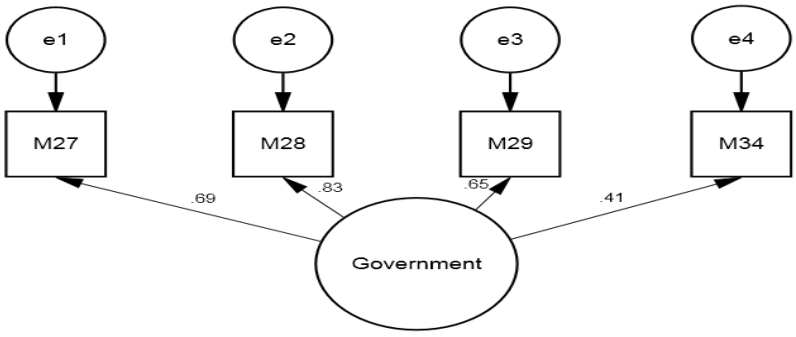
4.7.5 The Role of Government

From the pattern matrix developed during EFA stage, the item measures of the role of government is as follows:

Table 4.34: Measure for the Role of Government

M27	Government regulatory framework
M28	Social norms of workers and managerial attitudes
M29	Limited FDI
M34	To regulate the industry

The order condition shows that the number of free parameters to be estimated is 8 which is less than the number of distinct values in the matrix S, which is 10; implying that the degree of freedom is 4. The measurement model of this construct met the identification condition. Further, the CFA results show that the chi-square p-value is 0.281 suggesting that the model is significant. The value for GFI is 0.988 which is an excellent fit; the value of CFI, the incremental fit index, CFI, is 0.994 which is also an excellent fit; and the RMSEA (badness of fit) is 0.05. All these indices supports the measurement model of the role of government as embedded in the PDM.



CMIN/df=1.269; p-Value=0.281; CFI=0.994; GFI=0.988; RMSEA=0.05

Figure 4.13: Model Fit Indices for the Role of Government

The null hypothesis that the role of government is not a statistically significant determinant of competitive advantage of the textiles and apparel industry in Tanzania is rejected and the alternative hypothesis that the government has a significant role is accepted. The path diagram of this construct is shown in Figure 4.13.

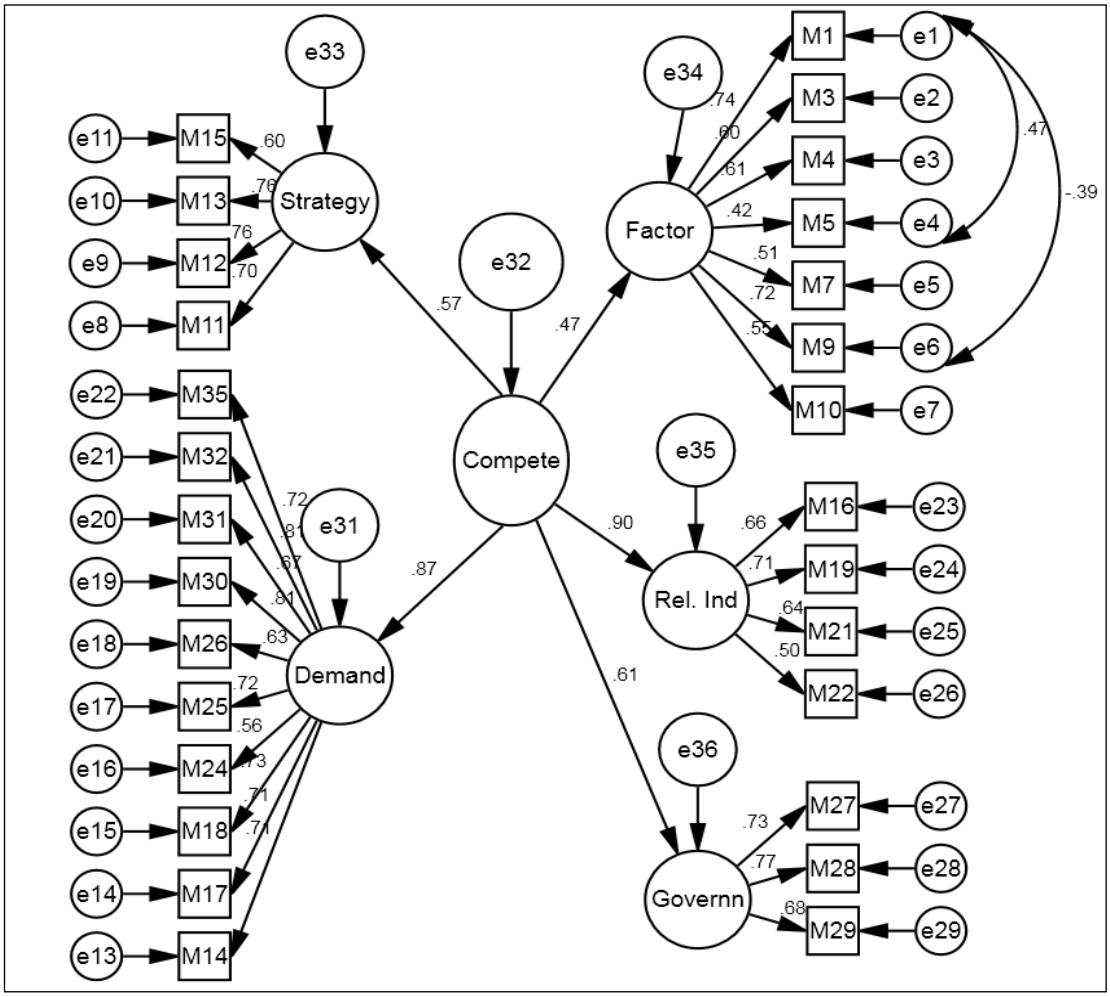
As regards the role of government, denoted by GV, the equations are as follows:

$$M_{27} = 0.69\ GV + e_1; \qquad M_{28} = 0.83\ GV + e_2;$$

$$M_{29} = 0.65\ GV + e_3; \qquad M_{34} = 0.41\ RS + e_4 \qquad \textbf{(25)}$$

4.7.6 The Structural Model of Macro Variables

The structural model for the five constructs of the diamond model was empirically tested to show the key relationships among the constructs and relationships among the variables. The modification indices were used to improve the fitness of the structural model.



CMIN/df=1.3; p-Value=0.45; CFI=0.912; GFI=0.9; RMSEA=0.04

Figure 4.14: The Structural Model of Diamond Determinants

The CMIN/DF value is 1.3, the absolute fit index (GCI) is 0.9; the value of incremental fit index (CFI) is 0.912, and the badness of fit (RMSEA) value is 0.04, also an acceptable value. Based on the structural model, all null hypotheses of no statistical significance relationship between the diamond determinants and the competitive advantage were also rejected and hence the alternative hypotheses were accepted. Figure 4.14 depicts these relationships embodied in the structural model.

4.8 The Regression Weights of Micro and Macro Models

In this section, AMOS 21 software was used to establish whether the parameter estimates of determinants of micro and macro models produced using SEM analysis are statistically significant in measuring the constructs that they measure (objective 5 of the study).

4.8.1 Regression Weights of Micro Model

4.8.1.1 Value Chain Management Practices

All standardized regression weights and associated t-values for this construct were statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that value chain management is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania.

Table 4.35: Regression Weights for Value Chain Management Practices

Variable	Construct	β Estimate	S.E	t-Value	*p*-Value
A43	Management	0.956	0.076	12.66	0.00
A44	Management	1.106	0.106	10.445	0.00
A45	Management	1.047	0.097	10.829	0.00
A46	Management	0.894	0.096	9.277	0.00
A47	Management	0.909	0.087	10.482	0.00
A48	Management	0.734	0.091	8.076	0.00
A49	Management	0.636	0.085	7.499	0.00
A50	Management	1.009	0.099	10.239	0.00

4.8.1.2 Core Competency

Furthermore, standardized regression weights and associated t-values for core competencies were statistically significant at 0.00 level of significance. All these strongly support the model fit results and it also complement the study in proving the hypothesis that core competency is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania**.**

Table 4.36: Regression Weights for Core Competencies

Variable	Construct	β Estimate	S.E.	t-Value	*p*-value
A35	Competency	1.34	0.17	7.902	0.00
A36	Competency	1.27	0.166	7.656	0.00
A37	Competency	1.391	0.174	8.015	0.00
A38	Competency	1.354	0.181	7.46	0.00
A39	Competency	1.276	0.176	7.236	0.00

4.8.1.3 Competition

In addition, all variables were found to be statistically significant at 0.00 level of significance. All these strongly support the model fit results and proves that competition construct is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania.

Table 4.37: Regression Weights for Competition

Variable	Construct	β Estimate	S.E.	t-Value	*p*-value
A11	Competition	1.204	0.179	6.725	0.00
A12	Competition	1.723	0.238	7.226	0.00
A13	Competition	1.247	0.203	6.153	0.00

4.8.1.4 Alternative Products

After proving that the fit indices are all statistically significant, the standardized regression weights and associated t-values were computed for substitute products. All were found to be statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that alternative products is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania.

Table 4.38: Regression Weights for Alternative Products

Variable	Construct	β Estimate	S.E.	t-Value	*p*-value
A29	Substitutes	0.698	0.065	10.741	0.00
A30	Substitutes	0.708	0.089	7.931	0.00
A31	Substitutes	0.699	0.078	8.98	0.00
A32	Substitutes	0.555	0.083	6.692	0.00

4.8.1.5 Barriers to Entry

The standardized regression weights and associated t-values were computed for barriers to entry. All were found to be statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that barriers to entry is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania.

Table 4.39*:* Regression Weights for Barriers to Entry

Variable	Construct	β Estimate	S.E.	t-Values	*p*-value
A4	Barriers	1.124	0.249	4.521	0.00
A5	Barriers	0.671	0.193	3.47	0.00
A6	Barriers	1.074	0.24	4.48	0.00

4.8.1.6 Bargaining Power of Buyers

Lastly, the standardized regression weights and associated t-values were computed for bargaining power of buyers. All were found to be statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that bargaining power of buyers is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania.

Table 4.40*:* Regression Weights for Bargaining Power of Buyers

Variable	Construct	β Estimate	S.E.	t-value	*p*-value
A17	Power of Buyers	0.852	0.124	6.859	0.00
A18	Power of Buyers	0.671	0.107	6.272	0.00
A19	Power of Buyers	0.582	0.1	5.841	0.00
A24	Power of Buyers	0.56	0.133	4.201	0.00

4.8.2 The Regression Weights of the Macro Model

4.8.2.1 Demand Conditions

The standardized regression weights and associated t-values were computed for demand conditions, a determinant of macro model. All variables were found to be statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that demand conditions is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania. It also supports PDM that demand conditions are determinant of nation's competitive advantage.

Table 4.41*:* Regression Weights for Demand Conditions

	Construct	β Estimate	S.E.	t-value	p-value
M17	Demand	0.973	0.13	7.485	0.00

M18	Demand	1.276	0.196	6.521	0.00
M24	Demand	0.711	0.134	5.312	0.00
M25	Demand	1.151	0.184	6.254	0.00
M26	Demand	0.799	0.153	5.206	0.00
M30	Demand	1.208	0.168	7.182	0.00
M31	Demand	0.861	0.14	6.154	0.00
M32	Demand	1.356	0.183	7.43	0.00
M35	Demand	1.149	0.173	6.652	0.00

4.8.2.2 Factor Conditions

Further, standardized regression weights and associated t-values were computed for factor conditions. All variables were found to be statistically significant at 0.00 level ofsignificance. They strongly support the model fit results and it further complements the study in proving the hypothesis that factor conditions is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania. It also supports Porter's Diamond Model that factor conditions are determinant of nation's competitive advantage.

Table 4.42: Regression Weights for Factor Conditions

		β Estimate	**S.E.**	**t-Value**	**p-value**
M3	Factor	1.243	0.253	4.91	0.00
M4	Factor	1.018	0.189	5.393	0.00
M5	Factor	0.892	0.162	5.517	0.00
M7	Factor	0.76	0.167	4.562	0.00
M9	Factor	1.266	0.273	4.63	0.00
M10	Factor	1.37	0.306	4.483	0.00

4.8.2.3 Firm Strategy, Structure and Rivalry

Standardized regression weights and associated t-values for this factor showed that all variables are statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements our study in proving the hypothesis that firm strategy, structure and rivalry is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania. It also supports Porter's Diamond Model that firm strategy, structure and rivalry is a determinant of nation's competitive advantage.

Table 4.43: Regression Weights for Firm Strategy, Structure and Rivalry

		β Estimate	**S.E.**	**t-Value**	***p*-value**
M12	Firm Strategy	0.833	0.165	5.047	0.00
M13	Firm Strategy	0.822	0.165	4.984	0.00
M15	Firm Strategy	0.704	0.141	4.983	0.00
M16	Firm Strategy	0.907	0.19	4.768	0.00

4.8.2.4 The Role of Government

As regards this construct, the regression weights and associated t-values showed that all variables are statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements the study in proving the hypothesis that the government has a significant role is putting enabling environment for competitive advantage as advocated in competitive theory, and is therefore statistically significant in determining competitive advantage It also supports PDM that the role of government is a determinant of nation's competitive advantage.

Table 4.44: Regression Weights for the Role of Government

		β Estimate	**S.E.**	**t value**	**p- value**

M28	Government	1.176	0.201	5.86	0.00
M29	Government	0.847	0.152	5.586	0.00
M34	Government	0.452	0.124	3.655	0.00

4.8.2.5 Related and Supporting Industries

Lastly, as regards related and supporting industries, the regression weights and associated t-values showed that the variables of this construct are statistically significant at 0.00 level of significance. All these strongly support the model fit results and it further complements our study in proving the hypothesis that that related and supporting industries is statistically significant in determining competitive advantage of textile and apparel firms in Tanzania. It also supports PDM that the firm strategy, structure and rivalry is a determinant of nation's competitive advantage.

Table 4.45: Regression Weights for Related and Supporting Industries

		β Estimate	**S.E.**	**t-Value**	**p-value**
M21	Related Industries	1.449	0.271	5.355	0.00
M22	Related Industries	0.997	0.182	5.476	0.00
M16	Related Industries	0.726	0.231	3.136	0.00

4.9 The Linkage between the Micro and Macro Models

A comprehensive structural model was developed to link the macro and micro models to address objective 6 on developing and establishing the linkage between the macro and micro competitive models.

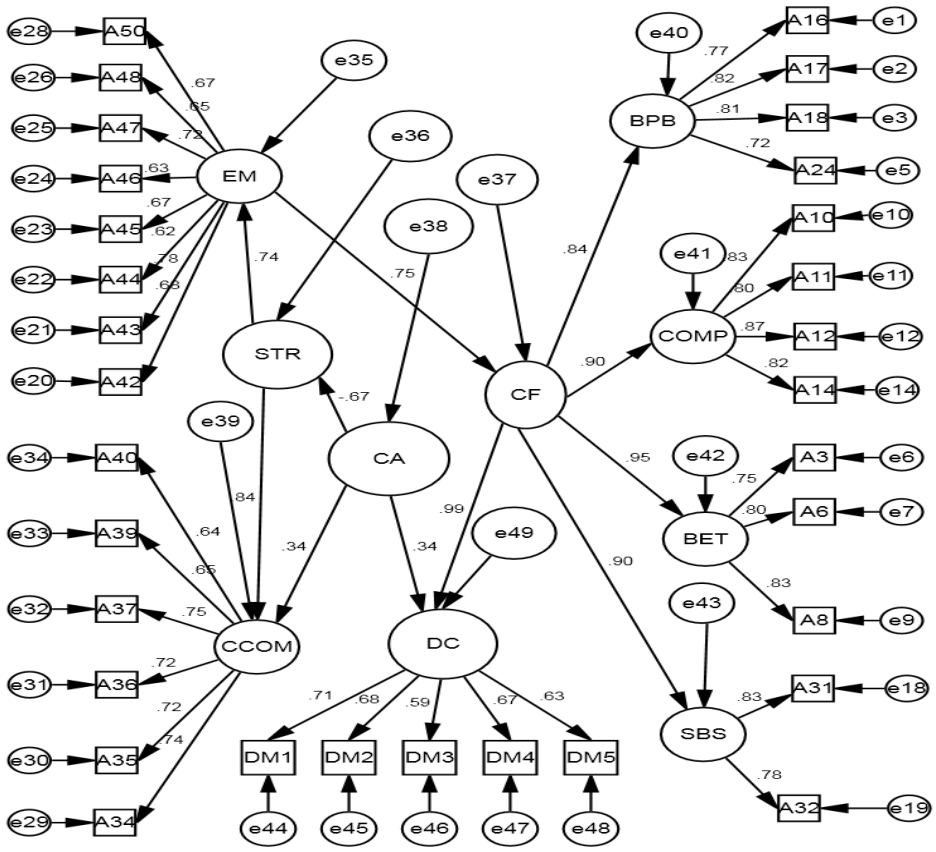


Figure 4.15: The Linkage of Macro and Micro Models

4.10 Summary of the findings and Hypothesis Tested

This section presents the overall results of the objectives and associated hypotheses:

4.10.1 Objective 1: Exploring the Underlying Dimensions of Micro-Competitiveness Model Based on Five Forces, Firm's Generic Value Chain and Core Competency

The finding for this objective indicates that the KMO value is 0.813; which is reasonably strong. The 50 variables that were used in the model were reduced to 39 variables clustered on six underlying factors which are value chain management practices, core competencies, competition, alternative products, barriers to entry and bargaining power of buyers.

4.10.2 Objective 2: Exploring the Underlying Dimensions of Macro Competitive Model

For the macro model, the KMO value is 0.811 which is an excellent value to show that the sample is adequate for factor analysis. The 42 variables used in the analysis were reduced to five constructs accounting for 56.5% of the total variance which are the factor conditions; firm strategy, structure and rivalry; related and supporting industries and the role of the government.

4.10.3 Objective 3: Model Fit Indices for the Micro Model

To find out whether the variables of the micro-structural competitive model combine to estimate a population covariance matrix which is similar to the sample covariance matrix. Under this objective, five hypotheses were tested as follows:

Hypothesis 1: *Factor conditions are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania.*

ANOVA and regression weights results of this construct is significant at 0.00. The results of SEM show that the model fit indices are all significant and therefore there is a small difference between construct's population covariance matrix and sample covariance matrix. Further, the standardized regression weight of the structural path between factor conditions and competitive advantage is significant (p value=0.308 and the path coefficient is 0.47). Therefore, the null hypothesis is rejected and conclude that factor conditions are statistically significant determinant of competitive advantage. It supports the Porter's Diamond Model that factor conditions are a key

determinant of competitive advantage as implied in theory, and specifically demonstrate its applicability for the Tanzania's textile and apparel industry.

Hypothesis 2: *Demand conditions are not statistically significant determinants of competitive advantage.*

ANOVA results and regression weights of this construct show the model is significant at 0.00. The model fit indices of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix.

Further, the standardized regression weight of the structural path between demand conditions and competitive advantage is significant (p value=0.220 and the path coefficient has a significant loading of 0.87). Therefore, the null hypothesis is rejected and conclude that *demand conditions* are statistically significant determinant of competitive advantage. It therefore supports the Porter's Diamond Model that demand conditions are a key determinant of competitive advantage as implied in theory, and specifically demonstrate its applicability for the Tanzania's textile and apparel industry.

Hypothesis 3: *Related and supporting industries are not statistically significant determinants of competitive advantage.*

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model

fit indices of this construct have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix.

Further, the standardized regression weight of the structural path between related and supporting industries and competitive advantage is significant (p value=0615 and the path coefficient of the structural model has a high loading of 0.90). Therefore, the null hypothesis is rejected and conclude that related and supporting industries are statistically significant determinant of competitive advantage. Likewise, it supports the PDM that related and supporting industries are a key determinant of competitive advantage as implied in theory, and demonstrate its applicability for the Tanzania's textile and apparel industry.

Hypothesis 4: *Firm strategy, structure and rivalry are not statistically significant determinants of competitive advantage.*

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix. The standardized regression weight of the structural path between firm strategy, structure and rivalry on one side and competitive advantage is significant (p value=0.992) and the path coefficient of the measurement model has a high loading of 0.57). Therefore, the null hypothesis is rejected and conclude that firm strategy, structure and rivalry are statistically significant determinant of competitive advantage. The firm strategy,

structure and rivalry is a key determinant of competitive advantage as implied in PDM is supported.

Hypothesis 5: ***The Role of Government is not statistically significant determinants of competitive advantage***

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix.

Further, the standardized regression weight of the structural path between the role of government and competitive advantage is significant (p value=0.281 and the path coefficient of the structural model has a high loading of 0.61). Therefore, the null hypothesis is rejected and conclude that firm the role of government is statistically significant determinant of competitive advantage. This construct as defined under the PDM is also supported, and therefore the Government has a proactive role in enhancing the appropriate business environment.

4.10.4 Objective 4: Model Fit Indices for the Macro Model

To find out whether the parameters of the macro-structural competitive model combine to estimate a population covariance matrix which is similar to the sample covariance matrix.

Hypothesis 6: ***Rivalry among competitors is not statistically significant determinants of competitive advantage***

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix. The standardized regression weight of the structural path between rivalry and competitive advantage is significant (p value=0.90 and the path coefficient of the structural model has a loading of 0.68). Therefore, the null hypothesis is rejected and conclude that rivalry among competitors is statistically significant determinant of competitive advantage. It shows that this construct has a strong theoretical relevancy as embodied in the Porter's Diamond Model, and that the textile and apparel industry should consider the construct and the determinants in strategy formulation.

Hypothesis 7: Bargaining Power of Suppliers is not statistically significant determinants of competitive advantage

Bargaining power of suppliers was dropped during factor analysis stage and therefore was not used for the micro competitive model. Therefore, bargaining power of suppliers is not statistically significant determinants of competitive advantage.

Hypothesis 8: ***Bargaining Power of Buyers is not statistically significant determinants of competitive advantage***

ANOVA results and regression weights of this construct show the model is significant at 0.00. As expected, the results of SEM show that the absolute and incremental model fit indices of the measurement model has an excellent fit. The standardized regression weight of the structural path between this construct and competitive advantage is significant (p value=0.416 and the path coefficient of the

structural model has a loading of 0.50). Therefore, the null hypothesis is rejected and conclude that bargaining power of buyers is statistically significant determinant of competitive advantage. This construct has a theoretical relevancy as implied by the Porter's Diamond Model and therefore should be taken into consideration.

Hypothesis 9: ***Barriers to Entry is not statistically significant determinants of competitive advantage***

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix.

The standardized regression weight of the structural path between barriers to entry and competitive advantage is significant (p value=0.624 and the path coefficient of the structural model has a loading of 0.74). Therefore, the null hypothesis is rejected and conclude that barrier to entry is statistically significant determinant of competitive advantage.

Hypothesis 10: ***Core Competencies is not statistically significant determinants of competitive advantage***

ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the indices have statistically significant values, and the standardized regression weight of the structural path between core competencies and competitive advantage is significant (p value=0.159 and the path coefficient of the structural model has a loading of 0.61). Therefore, the

null hypothesis is rejected and conclude that core competencies are statistically significant determinant of competitive advantage.

Hypothesis 11: *Enterprise Management is not statistically significant determinants of competitive advantage.* ANOVA results and regression weights of this construct show the model is significant at 0.00. The results of SEM show that the absolute and incremental model fit indices have excellent fit, and therefore small difference between construct's population covariance matrix and sample covariance matrix. The standardized regression weight of the structural path between this construct and competitive advantage is significant (p value=0.159 and the path coefficient of the structural model has a loading of 0.74). Therefore, the null hypothesis is rejected and conclude that enterprise management is statistically significant determinant of competitive advantage.

Hypothesis 12: *Alternative Products is not statistically significant determinants of competitive advantage.* ANOVA results and regression weights of this construct show the model is significant at 0.00. As usual, the results of SEM showed significant indices, and the standardized regression weight of the structural path between this construct and competitive advantage is significant (p value=0.132 and the path coefficient of the structural model has a loading of 0.73). Therefore, the null hypothesis is rejected and conclude that alternative products are statistically significant determinant of competitive advantage.

4.10.5 Objective 5: Linkage between the Macro and Micro Models

Analysis of the linkage between the macro and micro model (objective 5 of the study) demonstrated linkage effects in the following relationships:

(i) The diamond conditions have a strong positive relationship with the industry structure, with a standardized path coefficient of 0.99;

(ii) Competitive advantage as independent latent variables has a negative relationship with strategy as latent dependent variable, with a path coefficient of - 0.67.

(iii) The strategy as a mediating independent latent variable has a strong positive relationship with enterprise management as a latent dependent variable with a path coefficient of 0.74, and it has a path coefficient of 0.84 with core competency as the latent dependent variable.

4.10.6 Objective 6: Regression Weights of the Micro and Macro Model

As regards objective to explore whether the regression weights of the micro and macro model variables are statistically significant, all constructs and the associated variables under the micro and macro models were all statistically significant as discussed under section 4.8.

4.11 Summary of Model Fit Statistics

The following table provides the summary of the results of the key statistics of both micro and macro empirical models*:*

Table 4.46: The Summary of Model Fit Statistics and Related Hypotheses

Null Hypothesis	Results of Key Statistics	Conclusion
H1: Factor conditions are not statistically significant determinants of competitive advantage of the textiles and apparel industry in Tanzania.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.269; p-Value=0.281; CFI=0.994; GFI=0.988; RMSEA=0.05	The CFA fit indices and regression results reject the null hypothesis and support the alternative hypothesis that factor conditions are statistically significant is accepted.
H2- Demand conditions are not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.205; p-Value=0.220; CFI=0.991; GFI=0.947; RMSEA=0.049	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that demand conditions are statistically significant is accepted.
H3: Related and supporting industries are not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=0.254; p-Value=0.615; CFI=1.00; GFI=0.999; RMSEA=0.00	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that related and supporting industries are statistically significant is accepted.
H4: Firm strategy, structure and rivalry are not statistically significant determinants of competitive advantage	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=0.08; p-Value=0.992; CFI=1.00; GFI=1.00; RMSEA=0.00	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that firm strategy, structure and rivalry are statistically significant is accepted.
H5: The Role of Government is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.269; p-Value=0.281; CFI=0.994; GFI=0.988; RMSEA=0.05	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that the role of government is statistically significant is accepted.
H6: Bargaining Power of Suppliers is not	Dropped during factor analysis EFA process.	The bargaining power of suppliers is not statistically

statistically significant determinants of competitive advantage.		significant.
H7: Bargaining Power of Buyers is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=0.948; p-Value=0.416; CFI=1.00; GFI=0.993; RMSEA=0.00	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that the bargaining power of buyers is statistically significant is accepted.
H8: Threat of New Entry are not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=4.72.; p-Value=0.624; CFI=1.00; GFI=0.997; RMSEA=0.00	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that barriers to entry are statistically significant is accepted.
H9: Rivalry among competitors is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.799; p-Value=0.90; CFI=0.982; GFI=0.977; RMSEA=0.077	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that the rivalry among competitors is statistically significant is accepted.
H10: Alternative Products is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.77; p-Value=0.132; CFI=0.990; GFI=0.982; RMSEA=0.071	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative hypothesis that the alternative products are statistically significant is accepted.
H11: Core Competencies is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.799; p-Value=0.159; CFI=0.99; GFI=0.97; RMSEA=0.054	The fit and regression results rejects the null hypothesis and supports the alternative hypothesis that core competencies is statistically significant is accepted.
H12: Value Chain Management Practices is not statistically significant determinants of competitive advantage.	ANOVA results and regression p- and t- value for all variables are significant. CMIN/df=1.303; p-Value=0.164; CFI=0.993; GFI=0.966; RMSEA=0.044	The CFA fit indices and regression results rejects the null hypothesis and supports the alternative Hypothesis that the value chain management process is statistically significant is accepted.

4.12 The Synthesis of Findings and Discussion

To summarize, the chapter has presented systematically the findings and discussion for all objectives of the study. The chapter has ended in providing a summary of key statistics that have been used to prove the hypotheses emanating from each objective; and in doing so; it has presented a linkage among the objectives and hypotheses. It shows that the ANOVA diagnostics, CFA fit indices, structural model coefficients, the β and t value of the variables are all significant; and therefore confidently proving the theoretical model used in the study. In short, it depicts that the PDM, PFF, VCMP and CM are indeed key dimensions in the quest for Tanzania firms in the textile and apparel industry to attain competitive advantage.

In brevity, the findings prove the significance of theoretical premises embodied under the PFF model constituting bargaining power of buyers, alternative products, rivalry, potential entrants, and substitute products are all forces that put a cap on the industry's profit, and it is important that the firms analyze the underlying industry structure. The reason is that the extended rivalry results from the interplay of these competitive forces gives rise to industry profitability. The bargaining power of suppliers is not a significant force that affects profitability in the textile and apparel industry. This again supports the Porter's Five Force model that the configuration of forces differs in every industry (Porter, 2008).

In more clarity, availability of substitutes such as second hand clothes put a cap on the textile and apparel products; just as it happened on discovery of digital photography, a substitute for Kodac and Fuji films. Bargaining power of buyers is a key factor to be considered as well, they have a leverage to bargain better price

terms, as is evidently clear that textile and apparel products are of different varieties and fashion, supplied with numerous suppliers. The threat of entrants depends on the barriers to entry; the study has established that access to raw materials, access to favourable locations, access to specialized technologies, government regulatory policy and high cost of establishing business. All these factors are evidently barriers for new entrants, for instance, the World Bank Doing indicators shows that is ranked 131st in the DB 2015 (World Bank, 2015); which shows that the cost of doing business in Tanzania is high. It implies that the firms need to consider the forces in strategy preparation.

The internal dimensions constituting of the VCMP and Core Competencies are proved to be significant as also predicted by the theory discussed earlier. The VCMP shows that ability to manage inbound logistics, outbound logistics, marketing and sales logistics, procurement process, firm infrastructure, human resources and technology development; as well as use of research are revealed to be key factors. For the core competency, the following factors are shown to be important: ability to develop culture that attract key staff, hiring staff whose personality fits the company, acquiring qualifications that are suitable for the work, considering partners skills in activities and acquiring new technologies; as well as strategies for capacity building and enhancement of modern organisational culture.

With respect to PDM, the study has confirmed all the determinants of the model as predicted by the PDM. The factor conditions, demand conditions, related and supporting industries; firms' strategy, structure and rivalry and the role of the government are the dimensions that need to be taken into consideration in strategy

formulation. The factor conditions are constituted of skilled number of employees, labour costs, cost and availability of capital resources and infrastructure network (roads, railways, ports etc). The firm strategy, structure and rivalry dimension shows that understanding customer needs, production of quality clothes, production of varieties needed by Tanzanians, low growth of the textile market and low income of consumers are significant.

As regards demand conditions, inadequate accessibility to buyers, lack of sophisticated demanding buyers, non-existence of strong competitors, attitudes of workers towards management, the quality of human resources, type of education, process and products upgrading, ability of the firms to position in domestic and foreign markets and well as government intervention are key aspects to be considered for the demand condition. For the related and supporting industries, existence of poor linkages, poor information flow, inadequate cluster programme and forbidding imports of second hand clothes have been established to be key aspects. The role of government constituting government regulatory framework, social norms of workers and managerial attitudes, limited FDI and regulating the industry is significant.

Lastly, as regards the structural model of the study, it has established a strong linkage among the determinants of the model. The competitive advantage is predicted by diamond conditions, core competency and strategy; value chain management practices predict competitive forces; and strategy predicts value chain management practices and core competency. The meaning of the linkages is that diamond

conditions, core competency and value chain management practices are indeed key elements for consideration in preparation of the corporate strategies.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Overview

This chapter presents the conclusion and recommendations as regards the study. It starts with conclusion and then highlights key policy recommendations. The chapter concludes on the areas of future research to broaden the study on competitive advantage.

5.2 Conclusion

This study aimed at investigating the determinants of competitive advantage taking a case study of textile and apparel industry in Tanzania. The major conclusion is that the study strongly supports the competitiveness framework developed for this study; based on Porter' Diamond Model, Five Forces, Value Chain Management Practices and Core Competencies. Based on the analysis of linkage effects among the micro and macro models, it helps to innovatively develop a unique competitiveness framework which is the most useful reference framework that explores the key attributes on competitive advantage for the firms to attain competitive advantage; and hence contribute to making Tanzania a strong and dynamic competitive economy.

More specifically, the study shows that adoption of firm specific characteristics embodied under the micro model of the study are all significant and critical success factors, with the exception of bargaining power of supplies. The micro-model as determined by value chain management practices, core competencies, competition, alternative products, barriers to entry, bargaining power of buyers and bargaining power of suppliers are all significant factors that firms need to consider in their competitive strategies.

The five forces as a system is inter-dependent: all dimensions of the industry structure which are barriers to entry, rivalry, bargaining power of buyers and availability of substitutes are related; which shows that they should be considered together in analyzing the industry structure. The ‘resultant’ industry structure emerging from interaction of the forces is positively related with these dimensions. In another way, the favourable industry structure makes it attractive for incumbent firms to impose entry barriers; and this induces competitors to sell alternative products. The favourable industry structure induces buyers to bargain better terms, and intensifies competition among the existing firms. Core Competencies and value chain management practices are major dimensions and inputs for the firm’s strategic planning; which are logically and theoretically valid dimensions.

With respect to core competency, the study has established that ability of the firms to attract competent staff, acquiring key qualifications suitable for the work, considering partner's skills in activities, acquiring new technologies, effective strategic leadership that is able to cope with the technological challenges, adequate strategies for capacity building (investment in human capital) and enhancement of modern organizational culture; are all critical success factors as regards enhancing firm’s internal resources and capabilities.

For competition, rivals' efforts to improve quality and better customer service, advertising and sales promotion, active product innovation and the rate of industry's growth affect the degree of firm’s rivalry in the industry. As regards alternative products, it has been revealed that low prices of second hand clothes, lack of barriers

on the importation of the alternative products, durability of the imported textiles, buyers' preferences to buy; are significant variables. For the barriers to entry, the factors that prevent entry of new investors in the industry are access to raw materials, access to specialized technologies and access to favourable locations, government regulation policy, high operating costs and high costs of establishing the business.

Lastly, for the bargaining power of buyers; it has been found that there are few buyers with little leverage to bargain better price terms, and they do not purchase in large volume to affect the purchasing terms. Again, one buyers' purchase volume does not represent significant sales revenue, and buyers don't face switching costs by shifting from one seller to another.

As regards the PDM, the model is relevant for Tanzania in determining competitive advantage of the firms. Specifically, factor conditions, demand conditions, related and supporting industries; firm strategy, structure and rivalry and the role of government are all significant factors on competitive advantage. More specifically, for the factor conditions, the most important variables are skilled number of employees, high labour costs, cost and accessibility of capital resources, latest technology for production of quality textiles, infrastructure (roads, railways, ports etc), absence of strong local demand and desire and ability of Tanzanians to buy local textiles and apparel products. For firm strategy, structure and rivalry; it has been revealed that, inability to understand customer needs, inability to produce quality clothes, inability to produce varieties needed by Tanzanians, low size and growth of Tanzania's textile market, and low income of consumers are the most important factors to be taken into consideration. As regards demand conditions, the

study found that inadequate accessibility to buyers, lack of sophisticated and demanding local buyers; lack of efficient, early and rapid preferential access; non-existence of strong local competitors, attitudes of workers towards management, quality of human resources, type of education delivered, process and product upgrading and ability of firms to position in domestic and foreign markets are the most significant factors. With respect to related and supporting industries, the poor linkages among the firms, poor information flow, inadequate cluster programmes and forbidding imports of second hand clothes. Lastly, the role of government dimension shows that the regulatory framework, social norms of workers and managerial attitudes, limited FDI and regulation of the textile industry are the key factors.

The structural model for the PDM shows that all the dimensions are related and reinforce each other, which is consistent with PDM theoretical framework (Porter, 1990). This is an important finding, which shows that the dimensions interact as a system. The demand conditions, for example, stimulate factor creation; and the role of government is key in influencing all the dimensions. This is consistent with the PDM theory that each of the four attributes of the PDM defines a point on the diamond of national advantage; the effect of one point depends on the other (Porter, 1990).

The result further reveals that there is a linkage between the diamond framework and PFF. The diamond conditions have a strong positive relationship with the underlying industry structure, reinforcing the existence of linkage between the two models. Further, the competitive advantage as independent latent variables has a negative relationship with strategy taken as a latent dependent variable; and the strategy as a

mediating independent latent variable has a strong positive relationship with enterprise management as a latent dependent variable. The conceptual model of the study is approved as a framework of competitive advantage.

With respect to the micro structural model of the study, the more favorable industry structure leads to intense competition as many firms enter the industry, which ultimately leads to firms imposing barriers to entry. Also, the favorable industry structure increases the degree of rivalry as firms compete for profit; and, the more favorable the industry structure, the more leverage the buyers have to bargain because it leads to high competition and gives buyers leverage to bargain for better terms. Again, the more favorable the industry structure, the greater are availability of substitutes as this leads to many firms entering the industry which leads to high competition and availability of substitutes. Further, as regards enterprise management, the more efficient the corporate are managed, the more favorable the industry structure (and profitability) and this in turn contributes to make the overall industry competitiveness landscape more favourable.

5.3 Recommendations

The textile and apparel firms need to consider adopting competitive strategies to enable them compete in a sustainable manner. Specifically, firms need to take into consideration both internal and external factors in design of competitive strategies as proposed by this study. In doing so, firms need to take into consideration the dimensions of diamond conditions, core competency and value chain management practices in preparation of the corporate strategies that aims at sustainable competitive advantage.

The more efficient the corporate are managed; it contributes in making the overall industry competitiveness landscape more favourable. They need to study the underlying industry structure using the PFF framework; and then adopt strategies that take into consideration key resources and capabilities; as well as value chain management practices. With respect to internal capabilities, firms need to enhance capabilities for procurement specialists and have in place effective procurement plans and manuals to support inbound and outbound logistics. They need to develop technology outsourcing policy to procure appropriate technologies to produce the products, and use technology efficiently.

Moreover, for the firms to be able to manage the outbound and inbound logistics, the government have a role to play to develop the necessary infrastructure such as access roads for the firms to outsource supplies and deliver products. Specifically, firms need to improve management of inbound and outbound logistics necessary to deliver the required inputs to the firm and outwards selling of the products and services. Ability to manage marketing of firms' products is core to success, and firms need to have in place marketing strategies and effective implementation.

Research and development for innovation and upgrading is an important factor; and in doing so, firm need to establish research and development units and empower them with competent staff. There is a need for the firms to undertake research for products developments, new technologies, changing marketing and fashions, customer tastes and other critical aspects necessary for firms upgrading and innovation.

With respect to core competencies, firms need to enhance their internal capabilities to develop human resources plans to attract competent staff with personalities that fit the company, considering partner firms' skills in firm activities, developing effective strategic leadership to cope with the technological challenges and strategies for capacity building. With respect to competition, firms need to improve quality, offer better custom services, scale up promotion campaigns of their products and active product innovation. For the alternative products, the government is in the best position to regulate importation of second-hand clothes and promote 'buy Tanzania campaign" to increase Tanzanians preferences on local products. For the barriers to entry, the government need to improve conditions for the access to raw materials and scale up efforts to reduce the high cost of doing business; and invest in specialized technologies and favourable locations.

As regards the macro model of the study; the government and private sector stakeholders are encouraged to use the PDM in the quest to improve competitive advantage for Tanzania. The PDM is an important tool that needs serious consideration by government and industry policy makers, as it is important to create and upgrade factors that will create competitive advantage given that the inherited natural resources will not guarantee competitive advantage on their own. In particular, firms need to embark on developing factor conditions by upgrading skills of employees, reducing cost and accessibility of capital resources, adoption of latest technology for production of quality textiles and investing in infrastructure (roads, railways, ports etc).

There is a need to study the demand patterns by carefully studying the customer preferences and produce quality products taking into consideration the right style compared to the imported products. More importantly, provision of enabling environment for efficient, early, rapid and preferential access to the inputs required; enhancing linkages for manufacturing, distribution and marketing; development of industry's value chains, and strengthening information flow among the industry participants; and efforts to develop the cluster programmes are all critical success factors.

The government has an important role as a catalyst and challenger in influencing the industry's competitive advantage by improving regulatory framework and promote Foreign Direct Investment. All determinants of the diamond model should be taken into consideration in the quest to improve the competitive advantage at the level of the industry and at the national levels. Improvement of the national macro-economic conditions as determined by the diamond conditions is very important to make industry structures favourable for investments.

In summary, the key message emanating from this study is that competitive framework developed in this study provides a useful reference for the firms in the textile and apparel industry to enhance competitive advantage. In the process of adopting strategies, firm need to study the underlying industry structure as a tool to position the firms; and prepare the strategies that take into consideration the underlying industry structure. Having studied the industry structure, the firms need to prepare corporate strategies taking into consideration the key elements of value chain

management practices and core competencies. Firms need to collaborate with other industry participants and government, to work on improving diamond conditions for the industry's products.

5.4 Areas of Further Study

The scope of this thesis has been limited to the analysis of determinants of competitiveness at the firm level using both micro-and macro-perspectives. Still a lot need to be done for the other industries in the quest to unfold the underlying political economy of competitiveness; and contribute on the theory of competitive advantage. The justification for these studies is unquestionable: in the contemporary world nations makes all the efforts to unfold competitiveness dimensions applicable at the level of firms, industries and nations, taking into consideration the underlying causes could differ though there are common dimensions. Further, new research should be directed to explore further the linkages between the PFF and PDM. More importantly, future research needs to explore on the linkage between micro-economic theories of firm performance on the dimensions of competitive advantage discussed in this study.

REFERENCES

Aaker, D. A. (1989). *Managing Assets and Skills: The Key to Sustainable Competitive Advantage,* California.

Abdulkareem, A. (2008). *The Link between Competitive Priorities and Competitive Advantage*, Jordan, Al-Hussein Bin Talal University.

Aero, W. A. (1988). Relative Total Costs: An Approach to Competitiveness Measurement of Industries. *Management International Review*, 27:2.

Alderson, W. (1965). *Dynamic Marketing Behaviour: A Functionalist Theory of Marketing*. Homewood, Richard D. Irwin, Inc.

Ambastha, A. and Momaya, K. (2002). Competitiveness of Firms: Review of Theory, Frameworks and Models. *Singapore Management Review,* 26 (1): 47.

Amit, M. (1998). New Trade Theories and Industrial Location: A Survey of Evidence. *Oxford Review of Economic Policy.* 14 (2): 45-53.

Anderson, J. C., and Gerbing, D. W. (1984). The effect of Sampling Error on Convergence, Improper Solutions, and Goodness-of-Fit Indices for Maximum Likelihood CFA. *Psychometrika,* 49: 155−173.

Anjana, K. (2008). Empirically Testing the Relationships between Core Competence, Competitive Advantage, and Competitiveness: A Study of Medium Size Firms in India. *International Journal of Global Business and Competitiveness,* 3 (1): 31-47.

Armen, C. and Laurence, L. (2006). The competitive advantages of Nations: Applying the "Diamond" model to Armenia. *International Journal of Emerging Markets,* 1 (2): 147-164.

Arthur, A. T., Margaret, A. P., John E. G., Strickland, A. J. (2005). *Crafting and Executing Strategy*. Troy State University, PowerPoint Presentation.

Balkan, I. and Fatima, D. (2012). Competitiveness *of the Industries Based on the Porter's Diamond Model: An Empirical Study.* Faculty of Economics and Administrative Sciences.

Bala, B. (2011). Strategic Firm Response to Developing Economy Challenges. *Global Business Review*. 12(1): 71–86.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*. 17 (1): 99-120.

Barney J. (2002). *Gaining and Sustaining Competitive Advantage.* Saddle River, Prentice Hall.

Barrett, P. (2007). Structural Equation Modelling: Adjudging Model Fit. *Journal of Personality and Individual Differences*. 42 (5):815-24.

Bentler, P. M. and Bonnet, D. C. (1980). Significance Tests and Goodness of Fit in Analysis of Covariance Structures. *Psychological Bulletin.* 88:3.

Berna, T, Semra O. and Emin, C. (2000). *The Relationship between International Trade and Competitiveness*. Turkey. Faculty of Economics and Business Administration.

Bernadeta, W. (2013). A Framework for Sustainable Competitive Advantage for the Irish Pharmaceutical Industry. A Thesis for award of PhD degree at Waterford Institute of Technology.

Biselli, M. (2009). China's Role in the Global Textile Industry. A Thesis for the Award of MBA Degree. China Europe International Business School.

Byoungho, J. and Moon, H. (2006). The Diamond Approach to the Competitiveness of Korea's apparel industry: Michael Porter and beyond. *Journal of Fashion Marketing and Management.* 10 (2): 195 – 208.

Byrne, B. M. (1998). *Structural Equation Modelling with LISREL, PRELIS and SIMPLIS: Basic Concepts, Applications and Programming.* Mahwah, New Jersey. Lawrence Erlbaum Associates.

Cartwright, W. (1993). Multiple Linked Diamonds and External Competitiveness of Export-Dependent Industries: The New Zealand Experience. *Journal of Management Information Review.*

Chandler, A. D. (1962). *Strategy and Structure*. New York. Garden City.

Charttirot, K., Natcha, T. and Emeritus A. C. (2013). Factors Affecting the Innovation Capacity of Thai Textile and Clothing Industries in Thailand. *International Journal of Research in Management and Technology.*

Chi, T. and Kilduff, P. (2006). An Assessment of Trends in China's Comparative Advantages in Textile Machinery, Man-made fibers, textiles and apparel. *The Journal of the Textile Institute.* 97 (2): 173-191.

Chi-Keung, L., Kin-Man, T., Zhiming Z. and Jing C. (2009). *Determinants of Competitiveness: Observations in China's Textile and Apparel Industries*. Institute of World Economics and Politics, Chinese Academy of Social Sciences.

Collis, D. J. (1994). Research Note: How valuable are Organizational Capabilities? *Strategic Management Journal*. 15: 143-152.

Coyle, D. (1999). *The Weightless World: Strategies for Managing the Digital Economy (*2nd ed). Capstone, Oxford.

Danish, A. H. (2005). Making the Textile and Garment Industry Competitive. *Economic and Political Weekly*. 40: 2.

Daoud, J., Mustafa, A., and Atilla, B. (2011). *The Impact of Core Competencies on Competitive Advantages in Istanbul Tourists Companies.* Istanbul University.

Day, G. and Wensley, R. (1988). Assessing Advantage: A Framework for Diagnosing Competitive Superiority. *Journal of Marketing*. 52: 1-20.

Day, G. S. (1984). *Strategic Market Planning: The Pursuit of Competitive Advantage*. St Paul, MN: West.

Denzin, N. K., and Lincoln, Y. S., (1998). *The Landscape of Qualitative Research*. London. Sage Publications.

Diamantopoulos, A., and Siguaw, J. A. (2000). *Introducing LISREL*. London. Sage Publications.

Dirk, E. (2006). A*n Evaluation of the Competitiveness of the South African Agribusiness Sector.* Department of Agricultural Economics, University of Pretoria.

Dhobis, D. R. (1991). Competitive Thinking for Competitive Market. *Public Relations Quarterly*. (36) 3: 9-12.

EAC, (2015). *Draft East African Growth Opportunity Act (AGOA) Strategy 2015-2025*. EAC Secretariat. Arusha.

Edward, G. and Joost, S. (2012). *Structural Equation Modelling: A Verbal Approach.* Nyenrode Business University.

Elisante, O. G., (2005). *Application of Porter's Five Forces in the Banking Industry of Tanzania*. Faculty of Commerce. Mzumbe University.

European Commission, (2014). *Economic and Competitiveness Analysis of the European Textile and Clothing Sector in Support of the Communication: the Future of clothing and textile sector*. Brussels.

Eve, M., Chan, H., and Au, K. F. (2006). "Determinants of China's textile exports: An analysis by gravity model. Kowloon, Hong Kong. Institute of Textiles and Clothing, The Hong Kong Polytechnic University.

Federico, G., and Barbe, T. (2007). *Mercosur Union, Porter's Diamond and the Competitiveness of the Uruguayan Broiler Industry*. Cirencester. School of Business.

Field, A. (2005). *Discovering Statistics Using SPSS.* Sage Publication, 2nd Edition.

Fiol, C. M. (1991). Managing Culture as a Competitive Resource: An Identity-based View of Sustainable Competitive Advantage. *Journal of Management.* 17: 191-211.

Foss, N. J. (1996). Knowledge-based approaches to the theory of the firm: Some critical comments. *Organization Science.* 7: 470-476.

Gary, G. and Olga, M. (2013). *The Global Value Chain: What Prospects for Upgrading by Developing Countries.* UNIDO, Vilna.

George, S. and Brian, S. (2007). Competitive Advantage Revisited: Michael Porter on Strategy and Competitiveness. *Journal of Management Inquiry*, 16: 3.

George, K. and Kweka, J. (2005). *The Linkage Between Trade, Development and Poverty Reduction", A Case Study of Cotton and Textile Sector in Tanzania*. A Case Study Report Submitted to CUTS-CITEE (India) for Tanzania TDP Project. Dar es Salaam. ESRF.

Gowrie, V., Sreenivasan J. and Govindan, M. (2012). *Critical Success Factors of Sustainable Competitive Advantage.*

Grant, R. M (1991). *Contemporary Strategy Analysis: Concepts, Techniques, and Applications*. Blackwell Publishers Ltd. Oxford.

Grant, R. M. (1995). *A Knowledge-Based Theory of Inter-Firm Collaboration, Academy of Management*. Best Paper Proceedings. 38: 17-21.

Hamel, G. and Prahalad, C. K. (1990). The Core Competence of the Corporation. *Harvard Business Review.* May-June: 79-9.

Hamel, G. and Prahalad, C. K. (1994). Competing for the future. Boston: Harvard. Business School Press.

Harron, B., Lynn, B., Diane, P. and Malcolm, K. (1999). *Promoting of Competitiveness of Textiles and Clothing Manufacturer in South Africa: African Economic Policy Paper.* Washington. Office of Sustainable Development, Bureau for Africa, Discussion Paper No. 32.

Hatcher, L. (1994). *A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modelling.* Cary. SAS Institute. Inc.

Hooper, D., Coughlan, J. and Mullen, M. R. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *The Electronic Journal of Business Research Methods.* 6: 53 – 60.

Hosono, A. (2013). *Industrial Strategy and Economic Transformation: Lesson of Five Outstanding Cases.* Japan, JICA/Africa Task Force.

Hu, L. T. and Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives, *Journal of Equation Modelling.* 6 (1): 1-55.

Hughes, J. (1994). *The Philosophy of Social Research.* Essex. Longman.

James, B. Schreiber, B. G., Tabachnick, K. and Fidell, L. S. (2006). *Using Multivariate Statistics* (4th edition). Needham Heights. M.A: Allyn and Bacon.

James, E. B., Joe, W. K., and Chadwick, C. H. (2011). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*. 19 (1).

Jamie, D. and DeCoster, J. (1998). *Overview of Factor Analysis*, Retrieved on January 2015 at http://www.stat-help.com/notes.html.

Jay, G. (2012). The Evolution of Enterprise Organizations Design. *Journal of Organization Design.* 1(2): 1-13.

Jones and Bartlett Publishers, (2013). *Factor Analysis, Path Analysis and Multivariate Analysis.* Burlington.

Joreskog, K. and Sörbom, D. (1996). *LISREL 8: User's Reference Guide*. Chicago. Scientific Software International Inc.

Kabeer, N., and Mahmud, S. (2004). Globalisation, Gender, and Poverty: Bangladeshi Women Workers in Export and Local Markets. *Journal of International Development.*

Kahyarara, G. (2010). *Market Competition and Performance of Tanzanian Manufacturing*. University of Dar es Salaam.

Karl, A. (2006). *Competitiveness: From a Dangerous Obsession to Welfare Creating Ability with Positive Externalities*. Springer Science and Business Media, LLC.

Kelly, K. (1998). *New Rules for the New Economy.* London. Penguin Putnam Inc.

Kennedy, O., Awino, Z. and Anne, W. (2009). *Determinants of Strategic Forces that Shape Competition Handcraft Industry in Kenya*. Nairobi, School of Business Management, University of Nairobi.

Kenny, D. A., and McCoach, D. B. (2003). Effect of the Number of Variables on Measures of Fit in Structural Equation Modelling. *Structural Equation Modelling*. 10 (3): 333-51.

Kevin, P. K. (1986). *Sustainable Competitive Advantage, What it is, What It is Not.* Business Horizons.

Kline, R. B. (2005). *Principles and Practice of Structural Equation Modelling*, 2nd ed. New York, The Guilford Press.

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques.* Delhi, New Age International (P) Limited.

Krishnaswami, O. R., and Ranganatham, M. (2006). *Methodology of Research in Social Sciences.* Mumbai, India, Himalaya Publishing House.

Krugman, P. R. and Obstfeld, M. (2003*). International Economics: Theory and Policy,* 4th edition. New York: Harper Collins.

Kweka, J. and Semboja, H. (1998). *Import Liberalization, Industrialization and Technological Capability: A Case Study of Garment Industry*. Dar es Salaam, Economic and Social Research Foundation.

Lakhal, L. (2009). Impact of Quality on Competitive Advantage and Organizational Performance, *Journal of the Operational Research Society*. 60 (5): 637-645.

Landry, M., C. and Malouin, Oral, M. (1983). Model Validation in Operational Research. *European Journal of Operational Research.* 92: 443-457.

Lim, M. (2003). The Development Pattern of the Global Textile Industry and Trade: Evidence from Textile Exports of the EC, the Far East, and Emerging Textile Exporting Countries in the 1980s. *The Journal of the Textile Institute.* 94:1-2, 32-52.

Maher, K. (2008). *Understanding Factor Analysis.* Department of Humanities and Social Sciences. Zayed University Office of Research.

Margaret, A. P. (1993). The Cornerstone of Competitive Advantage: The Resource Based View. Journal of *Strategic Management.* 14: 179-191.

Martin, R. L. (2002). *A Study on the Factors of Regional Competitiveness: A Draft Final Report for the European Commission Directorate-General Regional Policy.* Rotterdam. University of Cambridge.

Martinuzzi, A., Robert, K. and Claus, F. A. (2011). *Corporate Social Responsibility Activities and the Impacts of the Textile Sector.* Vienna, Rimas Working Paper.

Maurizio, G. (1997). *The Competitiveness of the European Textile Industry.* Centre for International Business Studies. London. South Bank University.

Mbele, A. V. Y. (2005). *Productivity Performance in Developing Countries: Country Case Studies, Tanzania.* UNIDO.

McDonald, R. P. and Ho, H. R. (2002). Principles and Practice in Reporting Statistical Equation Analyses. *Psychological Methods.* 7 (1): 64-82.

McKiernan, P. (1997). Strategy Past; Strategy Futures. *Long Range Planning*. *30*: 690-708.

Melih, A. (2012). Moderating Effect of Porter's Diamond Framework Between Firm Strategies and Export Performance: A Conceptual Model", *EUL Journal of Social Sciences*.

Michael, H., Barbara, K. and Samuel, D. M. (1988). Navigating in the New Competitive Landscape: Building Strategic Flexibility and Competitive Advantage in the 21st Century. *Academy of Management Executive.* 12 (4).

Michael, S., Roger, J. and Anthony C. B. (2002). Competitive Forces and Strategic Choices Decisions: An experimental Investigation in the United States and Japan. *Strategic Management Journal.* 23: 10.

Miles, J. and Shevlin, M. (1998). Effects of Sample Size, Model Specification and Factor Loadings on the GFI in Confirmatory Factor Analysis. *Personality and Individual Differences.* 25: 85-90.

MIT, (2001). *Sustainable Industrial Development and Competitiveness: Analyzing Competitiveness, Strategies, Policies and Action Plan to accelerate Industrial Development*. Dar es Salaam.

MIT, (2011). *Tanzania Textiles and Garment Development Strategy*. Dar es Salaam, Tanzania Gatsby Trust.

MIT, 2011. *Sustainable Industrial Development and Competitiveness: Analyzing Competitiveness, Strategies, Policies and Action Plan to Accelerate Industrial Development.* Dar es Salaam

Mohammad, A. S. (2005). *Achieving Competitive Advantage through Managing Supply Chain Excellence: The Case of Thai Garment Industry*. Proceedings of the International Conference on Computer and Industrial *Management.* Bangkok. Thailand.

Moon, H. C., and Cho, D. S. (2002). From Adam Smith to Michael Porter: Evolution of Competitiveness Theory. *Asia-Pacific Business Series.* 2.

Motoyama, Y. (2008). What Was New About the Cluster Theory: What Could It Answer and what could it not Answer? *Economic Development Quarterly*. 22:4.

Mukanda, K. (2005. *Theoretical Framework and Research Methodology.* Chapter 3.

Nguyen, T. N. Q. (2010). Knowledge Management Capability and Competitive Advantage: An Empirical Study of Vietnamese Enterprises. A Thesis for Award of PhD degree, Graduate College of Management, Southern Cross University.

Nicole, P. H. (2000). *An Examination of the "Sustainable Competitive Advantage" Concept: Past, Present, and Future*. Culverhouse College of Commerce and Business Administration, University of Alabama.

Oral, M. and Ossama, K. (1999). *Firm Competitiveness for Strategy Formulation.* Istanbul, Turkey. Faculty of Management.

Orges, O. and Omer, S. (2008). Porter's Model of Generic Competitive Strategies: An Insightful and Convenient Approach to Firm's Analysis. *Journal of Business Economics*. 43 (3): 55-64.

Parrish, E, Matt, B., Nancy, L. C. and William O. (2008). *Measuring the Competitive Advantage of the US Textile and Apparel Industry.* Boston, *Alfred* P. Sloan Foundation.

Paul, A. D. (2008). Interpreting Structural Equation Modelling: A Reply to Martin and Cullen. *Journal of Business Ethics.* 83: 365-368.

Paul, B., and Mombert, H. (2007). *Clothing and Export Diversification: Still a Route to Growth for Low-Income Countries*? Washington. The World Bank Poverty Reduction and Economic Management Network.

Peter, N. (2006). *Measuring Competitiveness.* Dublin, University College.

Pinar, M. and Trapp, P. S (2008) Creating Competitive Advantage through Ingredient Branding and Brand Ecosystem, *Journal of International Food and Agribusiness Marketing*. 20 (1): 29-56.

POPC, (2009). *Study on the Identification of Potential Growth Drivers for Tanzania Based on an Analysis of Tanzanians Competitive and Comparative Advantages*. Dar es Salaam.

Popper, K. (1959). *The Logic of Scientific Discovery.* London, Hutchinson.

Porac, J. F, Thomas, H. (1990). Taxonomic Mental Models in Competitor Definitions. *Academy of Management Review*. 15(2): 224-240.

Porter, M. E. (1990). *The competitive Advantage of Nations.* Harvard Business School Publishing Corporation.

Porter, M. E. (2006). *On Competition.* Washington D.C. Harvard Business School Publishing Corporation.

Porter, M. E. (2008). *Competitive Advantage: Creating and Sustaining Superior Performance.* Washington D.C. Harvard Business School Publishing Corporation.

Prime Minister's Office (2009). *The Roadmap for Improvement of Investment Climate in Tanzania*. Dar es Salaam.

Proctor, S. (1998). Linking Philosophy and Method in the Research Process: the Case for Realism. *Journal of Nurse Researcher.* 5 (4): 73-90.

Prunea, A. (2014). The Competitiveness of Textile Industry. Oradea. University of Oradea.

Pulaj, E. and Kume, V. (2014). Basic Tools and Frameworks for Analyzing and Understanding Competitiveness within the Industry. *European Journal of Sustainable Development.* 3 (1): 47-56.

Rajiv, K., and Doreen, C. (2002). *International Competitiveness of Asian Firms: Analytical Framework.* Manila. Asian Development Bank.

Ranjit, K. (1999). *Research Methodology: Research Design.* London, Addision Wesley Longman Australia Pty Limited.

Richard, M. H. (1993). Porter's Diamond Framework in a Mexican Context. *Journal of Management Information Review.* Special Issue: 41-54.

Rugman, A. and D' Cruz, J. (1993). The Double Diamond Model of International Competitiveness: The Canadian Experience. *Management Information Review.* Special Issue: 17-39.

Salvador, B. (2006). *Assessing the Power of Porter's Diamond Model in the Automobile Industry in Mexico after Ten years of NAFTA*. School of Graduate Studies of the University of Lethbridge.

Samar, V. (2012). *Export Competitiveness of Indian Textile and Garment Industry. New Delhi.* Indian Council for Research on International Economic Relations.

Schumacker, R. E. and Lomax, R. G. (2014), *A Beginner Guide to Structural Equation Modeling*, Lawrence Erlbaum Associates, Inc., New Jersey.

Scott, B. R., and Lodge, G. C (1985). *U.S. Competitiveness in the World Economy*. Boston. Harvard Business School Press.

Senge, P. (1990, Fall). Building learning organizations. *Sloan Management Review*. 16(3): 48-56.

Shanna, B. Nancy C. and Michele J. (2005). Branding to Compete: Applications to Textiles and Apparel. *Journal of Textiles and Apparel, Technology and Management*. 4 (3).

Shantanu, B. (2004). *Determinants of International Competitiveness: A Comparative Study of the Sugar Industry in Australia, Brazil and European Union.* University of Queensland.

Sharon, O., and Timothy, B. (1999). The Contribution of Foreign Subsidiaries to Host Country National Competitiveness. *Journal of International Management. (*5):187-206.

Smith, M. J. (1998). *Social Science in Question.* London. Sage Publishers.

Stewart, D. (2001). Exploratory versus Confirmatory Factor Analysis. *Journal of Consumer Psychology*. 10: 2.

Sultan, S. S. (2007). *The Competitive Advantage of Small and Medium Sized Enterprises: The Case of Jordan's Natural Stone Industry.* University of Maastricht.

Tabachnick, B. G. and Fidell, L. S. (2007). *Using Multivariate Statistics*, (5th ed.). New York. Allyn and Bacon.

Tamas, S. (2005). Interpretations, Aspects and Levels, Decision Factors and Measuring Methods of Competitiveness. *Society and Economy*. 27 (1):5-41.

Tang, X. (2014). *The Impact of Asian Investment on African Textile Industries*. Garnegie-Tsinghua Centre for Global Policy.

Tanzania Gatsby Trust, (2007). The *Cotton and Textiles Sector in Tanzania: Issues and Opportunities, Report to the Government of Tanzania.* Dar es Salaam.

Thomas, G. (2010). The Stretch of Strategic Management Discourse: A Critical Analysis. *Journal of Organization Studies.*

Ullman, J. B. (2006). Structural Equation Modeling: Reviewing the Basics and Moving Forward. *Journal of Personality Assessment.* 87(1):35-50.

Verdin, P. and Williamson P. J. (1993). *Core Competence, Competitive Advantage and Market Analysis: Forging the Links.* London. INSEAD.

Walley, K. and Thwaites, D. (2011). A Review, Synthesis and Interpretation of the Literature on Competitive Advantage, *Journal of Strategic Marketing*, 4 (3): 163-179.

Wangwe, S., Donald, M., Jehovanes, A., Neema, R., Thadeus, M. and Abel, K. (2014). *The Performance of the Manufacturing Sector in Tanzania*. WIDER Working Paper.

Waverman, L. (1995). A Critical Analysis of Porter's Framework on the Competitive Advantage of Nations, in Alan M. Rugman, Julien Van Den Broec, Alain, V. (ed.). *Beyond The Diamond. Research in Global Strategic Management. 5:* 67-95.

Witada, A. (2009). *When do we Need Primary Data for Competitiveness Analysis*? Power Point Presentation. Thailand. Thamasat University.

World Bank, (2005). *Improving Competitiveness and Increasing Economic Growth in Tanzania: The Role of Information and Communication Technologies*. Washington, DC.

World Bank, (2015). *Doing Business Report*. Washington D.C. World Bank Group.

World Economic Forum, (2012). *The Global Competitiveness Report:* 2012-2013. Geneva. World Competitiveness Forum.

APPENDICES

Appendix I: Questionnaire

This questionnaire aims at finding out key competitiveness attributes affecting the textiles and apparel industry in Tanzania that will provide important inputs in the process to attain competitiveness. The information you provide will therefore help to provide insights that will help both the private sector and government stakeholders to improve competitiveness. The questionnaire has been prepared to capture key dynamics of contemporary competitiveness attributes affecting firms worldwide. We request you to spare your time to fill this questionnaire: the information you provide will help us propose a dynamic competitive model which will be applicable, not only to textiles and apparel industry, but also to other industries as well.

Beside this, reading every question carefully will help you to enrich your knowledge and understand how to position industries using contemporary competitiveness wisdom. **Kindly spare your time (a maximum of 1 hour to fill this questionnaire promptly.** What we request you is to tick for every statement. **KINDLY FILL UP EVERY QUESTION!**

For each element of the variable in the questionnaire, we request you **to tick** or **circle** your level of agreement: whether you 'strongly agree (1)', 'agree (2)', 'neutral (3)', 'disagree (4)' and 'strongly disagree (5)'. Let us help our nation become competitive and the textiles industry in particular!! Kindly work on this urgently and return to undersigned by filling within 1-4 working days.

1. Section A: A Model of Competitive Advantage

Factor Conditions: The factor conditions are built from our general understanding that factors of production consists of land, labour, capital and entrepreneur. The advanced conditions takes into consideration skilled labour or infrastructure necessary to compete in a particular industry. In the context of the textile and apparel industry, they could include machinery and equipment, spinning and weaving technologies, infrastructure, financial capital etc.

Question 1 (a): To what extent do you agree that the nature of factors of production have affected the competitive advantage of textiles and apparel industry?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

Question 1 (b): To what extent do you agree that the following are factors, *the absence of which* have contributed to low competitiveness of textiles and apparel firms in Tanzania?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Skilled number of employees in the industry	1	2	3	4	5
2	Scientific, technical and market knowledge special for the textiles industry.	1	2	3	4	5
3	High labour costs	1	2	3	4	5
4	Cost and accessibility of capital resources	1	2	3	4	5
5	Inadequate latest technologies for production of quality textiles.	1	2	3	4	5
6	Lack of research and training centers for the textile industry	1	2	3	4	5
7	Poor infrastructure (roads, railways, ports etc)	1	2	3	4	5
8	National and Industry efforts for R&D investments	1	2	3	4	5

2. Demand conditions

Demand conditions, as the name implies, refers to the home demand of the particular product. We are interested to assess variables that constitute 'demand' in the context of textiles and apparel industry.

Question 2 (a): To what extent do you agree that low ***demand*** of Tanzania's textiles and apparel products have affected industry's competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

Question 2 (b): To what degree are the following factors considered to be attributes that have affected demand of textiles and apparel products?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Absence of strong local demand that can pressure up textile firms to produce quality textiles.	1	2	3	4	5
2	Desire and ability of Tanzanians to buy local	1	2	3	4	5

	textiles and apparel products					
3	Inability of Tanzanian textile and apparel firms to understand customer needs including changing fashion.	1	2	3	4	5
4	Inability to produce clothes with good quality, style and colour compared to the imported ones.	1	2	3	4	5
5	Inability to produce varieties of textiles and garments needed by Tanzanians	1	2	3	4	5
6	Inadequate accessibility to buyers including poor distribution and logistics networks	1	2	3	4	5
7	Low size and growth of Tanzanian textiles market	1	2	3	4	5
8	Low income of consumers of textiles and apparel in Tanzania	1	2	3	4	5
9	Lack of sophisticated and demanding local buyers	1	2	3	4	5

3. Related and supporting industries

This refers to the presence of supplier and related industries that support the industry. For the case of the textiles and apparel industry, we are interested to know the extent to which the supporting and related industries have affected the competitiveness of the industry.

Question 3 (a): To what extent do you agree that existence or non-existence of ***related and supporting industries*** for the textiles and apparel industry have affected their competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

Question 3 (b): To what extent do you agree that lack of the following elements of ***related and supporting industries*** in Tanzania have affected textiles and apparel firm's competitive advantage?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Lack of efficient, early, rapid and preferential access to inputs required in the industry.	1	2	3	4	5
2	Poor linkages e.g sharing of	1	2	3	4	5

	activities for technology development, manufacturing, distribution and marketing.					
3	Low development of the textiles and apparel value chains.	1	2	3	4	5
4	Poor information flow among the firms in the industry.	1	2	3	4	5
5	Inadequate cluster programmes in the industry (clusters are joint activities performed by firms in the industry)	1	2	3	4	5

4. Firm Strategy, Structure and Rivalry

This refers to the conditions in the nation governing how firms are created, organized, managed, and the nature of the domestic rivalry.

Question 4 (a): To what extent do you agree that the nature of textile ***industry's strategy, structure and rivalry*** have affected industry's competitive advantage?

Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	2	3	4	5

Question 4 (b): How do you agree that the following have determined ***firm strategy, structure and rivalry*** in the textiles and apparel industry?

	Variable	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	Lack of business strategy for increased exports	1	2	3	4	5
2	Non-existence of strong domestic competitors in the industry					
3	Attitudes of workers towards textiles and apparel management	1	2	3	4	5
4	The quality of human resources in place to meet the needs of textiles and apparel industry	1	2	3	4	5
5	Government regulatory frameworks governing	1	2	3	4	5

	firms operations					
6	Social norms of workers and managerial attitudes	1	2	3	4	5
7	Limited Foreign Direct Investments in textiles and apparel industries	1	2	3	4	5
8	Type of educations being delivered by High Learning Institutions	1	2	3	4	5
9	Process and products upgrading and Innovation	1	2	3	4	5
10	Inability of the firm to position in domestic and foreign markets.	1	2	3	4	5

5. The Role of Government

The Government has both direct and indirect supporting role to create conducive business environment and investment climate.

Question 5 (a): To what extent do you agree that the government should have a big role to enhance textile firm's competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

Question 5 (b): To what extent do you agree that the following constitute ***the role of the government*** in enhancing textiles and apparel industry competitiveness for Tanzania?

	Variable	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	The government should design policies for enhancing industry's competitiveness	1	2	3	4	5
2	The government should regulate textile and apparel industry	1	2	3	4	5
3	The government should have minimal intervention, and leave market forces work	1	2	3	4	5
4	The government should forbid imports of second hand clothes to protect home industry	1	2	3	4	5
5	The government should strongly deal with corrupt business practices in the industry	1	2	3	4	5
6	The government should	1	2	3	4	5

	directly invest in building textiles and apparel factories					
7	The government should intervene by providing subsidies and other assistances	1	2	3	4	5
8	The government should negotiate for good market access conditions and protect the domestic industry	1	2	3	4	5
9	The government should intervene by providing subsidies that will enable local firms to compete	1	2	3	4	5
10	The government should build capacities for local firms to innovate	1	2	3	4	5

Section B: FIVE COMPETITIVENESS FORCES

The Five Competitiveness Forces are the external attributes that determine the industry structure and profitability. Understanding of these forces is extremely important as a basis to design a firm and industry's strategy.

Barrier to Entry: This refers to to the threat that new entrants to the industry impose to the existing firms. New entrants bring new capacity and a desire to gain market share that makes product prices to decline, and puts a limit on the profits that firms get in the industry.

Question 6 (a): To what extent do you agree that ***entry barriers*** in Tanzania (such as licensing requirements) have affected the textile and apparel firms to gain competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

Question 6 (b): Imagine that you want to establish a textile factory, what is your perception on the extent the following ***entry barriers*** will prevent you?

		Strongly agree	Agree	Neutral	Disa gree	Strongly disagree
1	Capital requirements to set a textile and apparel firm/factory	1	2	3	4	5
2	Access to distribution channels in Tanzania	1	2	3	4	5
3	Access to raw materials	1	2	3	4	5

	required to produce textiles and apparel products					
4	Access to specialized technology required in the industry	1	2	3	4	5
5	Access to favorable locations	1	2	3	4	5
6	Government regulation/ policy (stringent government requirements to establish a firm)	1	2	3	4	5
7	High operating costs for the textiles and apparel businesses	1	2	3	4	5
8	High cost of establishing the business	1	2	3	4	5

6. Competition in the Industry

This refers to the degree to which firms in the textile and apparel industry compete with each other.

Question 7 (a): To what extent do you agree that ***high competition*** in the textile and apparel industry has affected the firms to attain competitive advantage?

Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	**2**	**3**	**4**	**5**

Question 7 (b): To what extent the following attributes ***have determined*** the degree **of *existing competition*** among the competitors in textiles and apparel industry?

		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	Price competition has been vigorous i.e. competitors are competing based on price.	1	2	3	4	5
2	There are efforts to improve quality of textiles and apparel products	1	2	3	4	5
3	Competitors have been racing to offer better customer service.	1	2	3	4	5
4	There have been lots of	1	2	3	4	5

	advertising/sales promotions in the industry					
5	There have been active products innovation	1	2	3	4	5
6	There is high growth of textile and apparel industry	1	2	3	4	5
7	There are is high fixed and operating costs required to set up a factory	1	2	3	4	5

7. **Bargaining power of buyers**

This refers to the ability of buyers to bargain for the products. The powerful buyers can drive down prices by demanding more quality or more services.

Question 8 (a): To what extent do you agree that the ***bargaining power of buyers*** have affected the textile and apparel firms' competitive advantage?

Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	**2**	**3**	**4**	**5**

Question 8 (b): To what extent the following elements ***have determined*** bargaining power of buyers in the textiles and apparel industry?

		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	There are few buyers of textiles and apparel products	1	2	3	4	5
2	Buyers don't purchase in large volumes.	1	2	3	4	5
3	One buyer's purchase volume represents a large fraction of overall sales revenue.	1	2	3	4	5
4	Buyer faces some costs as they shift from one seller to another.	1	2	3	4	5
5	Buyers can find substitutes for textiles and apparel product.	1	2	3	4	5
6	Buyers have good information on the textile and apparel products and trends.	1	2	3	4	5
7	Textiles and apparel products represent significant fraction of cost of buyers.	1	2	3	4	5

8. The bargaining power of suppliers

This refers to the ability that the suppliers who are selling the product face low resistance to customers as they have much control of the industry.

Question 9 (a): To what extent do you agree that the ***bargaining power of suppliers*** have affected the textile and apparel firms to gain competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

Question 9 (b): To what extent the following statements are true as determining ***bargaining power of suppliers*** of the textiles and apparel industry in Tanzania?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Textile and apparel firms can buy production inputs wherever they want	1	2	3	4	5
2	Producers of textiles and apparel products are many compared to the customers.	1	2	3	4	5
3	There are few substitutes for production inputs required to produce the right textiles products.	1	2	3	4	5
4	Firms in the industry make specific investments to support transactions with specific input suppliers.	1	2	3	4	5
5	There are some costs of changing suppliers of inputs required.	1	2	3	4	5

9. Alternative Products

The alternative product performs the same or a similar function as a product which you normally use, e.g. alternative products for clothes being produced in Tanzania are imported clothes-'mitumba'.

Question 10 (a): To what extent do you agree that availability of ***alternative products*** have prevented the textile and apparel firms to attain competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

Question 10 (b): To what extent do you agree that the following are elements of *alternative products* that affect competitiveness of textiles and apparel industry?

	Variables	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Availability of substitute clothes and other textile products	1	2	3	4	5
2	Low prices of *mitumba* clothes	1	2	3	4	5
3	Absence or lack of barriers	1	2	3	4	5
4	Durability of imported clothes	1	2	3	4	5
5	Low buyer's willingness to buy the alternative products	1	2	3	4	5
6	Purchasing power of buyers vs. prices of the products	1	2	3	4	5

Section C: FIRM'S COMPETITIVENESS STRATEGY

10. To what extent do you agree that lack of ***key competencies*** in terms of technology and human resources *have affected* competitiveness of textile and apparel firms to gain attain competitive advantage?

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	**2**	**3**	**4**	**5**

11. What is your perception on the extent the following are key elements of ***core competencies in human resources*** the absence of which will lead to loss of competitiveness?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Ability to develop a culture that attract key staff	1	2	3	4	5
2	Ability to hire staff whose personality fits the company	1	2	3	4	5
3	Ability to acquire key qualifications and competencies suitable for the work	1	2	3	4	5
4	Ability to consider partner's skills in firm activities	1	2	3	4	5
5	Ability to acquire new technologies	1	2	3	4	5
6	Effective strategic leadership that is able to cope with technological challenges.	1	2	3	4	5

7	Adequate strategies for capacity building (invest in human capital)	1	2	3	4	5
8	Enhancing modern organisational structure and culture	1	2	3	4	5

12. Assess the performance of textile and apparel industry with regard to the following elements of value chain, how do you score performance on each?

		Strongly agree	**Agree**	**Neutral**	**Strongly agree**	**Agree**
1	Inability to manage inbound logistics (processes to procure raw materials etc)	1	2	3	4	5
2	Inability to manage operations activities (production processes)	1	2	3	4	5
3	Inability to manage outbound logistics (processes to sell products to customers)	1	2	3	4	5
4	Inability to manage marketing and sales logistics	1	2	3	4	5
5	Inability to manage firm Infrastructure (e.g. finance, planning etc)	1	2	3	4	5
6	Inability to manage human resource management	1	2	3	4	5
7	Inability to manage technology	1	2	3	4	5
8	Inability to use of research and development in firm's production process	1	2	3	4	5
9	Inability to manage procurement processes	1	2	3	4	5

General question: On your understanding and experience, what are the factors that if they were addressed proactively, the textile and apparel industry should have been competitive, and Tanzania could have attained substantial market access in foreign markets?

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PART B: RESPONDENT'S BACKGROUND INFORMATION (TICK THE APPROPRIATE)

13. What is your gender?

Male ☐ Female ☐

14. What is your age?

1	☐ Under 30 years	3	☐ 41-50	5	☐ Over 60 years
2	☐ 31-40	4	☐ 51-60		

15. Kindly indicate the highest level of education you attained

1	☐ High School	3	☐ Bachelor degree	5	☐ Masters Degree
2	☐ Diploma	4	☐ Graduate Diploma	6	☐ Doctorate

16. What is your current position?

1	☐ CEO/Chairman	**4**	☐ Sales/Marketing Manager/Officer	**7**	☐ ICT Manager/officer
2	☐ Managing Director	**5**	☐ Finance/Accounting Manager/Officer	**8**	☐ Production Manager/officer
3	☐ General Manager	**6**	☐ Human Resources Manager/Officer	**9**	☐ Not applicable

17. How many years have you worked with your institution?

1	☐ Less than 1 year	**3**	☐ 3-5 years	**5**	☐ 11-20 years
2	☐ 1-2 years	**4**	☐ 6-10 years	**6**	☐ Over 20 years

Appendix II: Reliability Analysis

Appendix II(A): Factor Condition

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Factor	14.39	14.358	0.437	0.235	0.746
M1	14.54	13.294	0.598	0.483	0.721
M2	14.51	13.601	0.532	0.332	0.731
M3	14.08	13.909	0.295	0.250	0.776
M4	14.50	13.719	0.493	0.321	0.737
M5	14.56	12.868	0.561	0.539	0.725
M6	14.59	15.091	0.308	0.362	0.762
M7	14.43	14.551	0.401	0.283	0.750
M8	14.40	13.946	0.450	0.255	0.743

Appendix II(B): Demand Conditions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Demand	19.27	31.784	0.380	0.256	0.827
M9	19.37	29.329	0.469	0.408	0.821
M10	19.24	27.885	0.553	0.491	0.812
M11	19.35	29.835	0.468	0.320	0.820
M12	19.35	30.604	0.397	0.408	0.827
M13	19.15	29.072	0.508	0.399	0.817
M14	19.18	29.378	0.537	0.340	0.814
M15	19.27	29.304	0.569	0.385	0.811
M16	18.97	26.240	0.707	0.566	0.794
M17	19.16	28.747	0.599	0.469	0.808

Appendix II(C): Firm Strategy, Structure and Rivalry

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Strategy	20.63	27.288	0.404	0.345	0.775
M23	20.78	27.342	0.178	0.279	0.807
M24	20.63	24.767	0.521	0.462	0.760
M25	20.56	23.450	0.625	0.578	0.747
M26	20.77	25.784	0.499	0.407	0.764
M27	20.77	25.486	0.520	0.394	0.762
M28	20.53	26.634	0.348	0.209	0.780
M29	20.72	26.271	0.422	0.244	0.772
M30	20.77	24.385	0.609	0.482	0.751
M31	20.91	27.795	0.319	0.216	0.782
M32	20.81	25.653	0.484	0.431	0.765

Appendix II(D): The Role of Government

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Government	18.58	20.156	0.506	0.397	0.705
M33	18.88	21.375	0.455	0.316	0.715
M34	18.42	19.546	0.488	0.456	0.705
M35	18.43	22.482	0.133	0.106	0.755
M36	18.44	19.971	0.434	0.345	0.713
M37	18.76	20.784	0.471	0.300	0.711
M38	18.38	20.965	0.269	0.229	0.740
M39	18.49	20.231	0.604	0.406	0.697
M40	18.65	21.430	0.380	0.216	0.722
M41	18.59	20.243	0.494	0.355	0.706
M42	18.41	20.686	0.236	0.376	0.750

Appendix II(E): Bargaining Power of Buyers

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Bargaining power of buyers	16.64	19.837	0.336	0.157	0.759
A16	16.47	15.521	0.636	0.500	0.702
A17	16.72	18.025	0.509	0.451	0.730
A18	16.47	18.122	0.511	0.318	0.730
A19	16.55	18.564	0.507	0.287	0.731
A20	16.71	20.967	0.174	0.053	0.784
A21	16.54	17.707	0.535	0.356	0.725
A22	16.59	18.687	0.489	0.361	0.734

Appendix II(F): Bargaining Competition

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Competition	15.10	21.577	0.515	0.388	0.826
A9	15.36	20.576	0.631	0.480	0.813
A10	15.15	21.282	0.562	0.359	0.821
A11	14.95	21.027	0.520	0.326	0.826
A12	14.74	18.669	0.639	0.455	0.811
A13	14.92	19.407	0.597	0.387	0.816
A14	14.93	20.212	0.611	0.399	0.814
A15	15.17	21.499	0.494	0.322	0.829

Appendix II(G): Entry Barrier

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Entry barrier	15.67	17.837	0.553	0.448	0.764
A1	16.12	19.336	0.420	0.244	0.782
A2	15.67	18.066	0.585	0.468	0.761
A3	15.63	17.141	0.566	0.451	0.761
A4	15.85	20.928	0.171	0.129	0.809
A5	15.63	16.766	0.612	0.447	0.754
A6	15.67	17.681	0.555	0.433	0.763
A7	15.82	19.115	0.343	0.216	0.793
A8	15.83	18.484	0.537	0.335	0.767

Appendix II(H): Alternative Products

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Substitutes	10.57	12.710	0.402	0.301	0.787
A28	10.94	10.671	0.729	0.637	0.725
A29	11.06	11.809	0.674	0.637	0.744
A30	10.89	11.854	0.539	0.450	0.763
A31	10.70	11.560	0.555	0.370	0.760
A32	10.36	11.659	0.454	0.298	0.782
A33	10.43	12.266	0.366	0.311	0.798

Appendix II(I): Bargaining Power of Suppliers

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Bargaining power of supplier	11.30	9.149	0.500	0.259	0.614
A23	11.45	9.204	0.251	0.157	0.687
A24	10.92	6.821	0.515	0.341	0.593
A25	11.45	8.879	0.389	0.282	0.637
A26	11.29	8.729	0.519	0.308	0.602
A27	11.33	9.002	0.343	0.204	0.652

Appendix II(J): Core Competency

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Competency	14.34	20.343	0.505	0.288	0.858
A34	14.54	20.062	0.546	0.357	0.855
A35	14.38	18.768	0.641	0.479	0.846
A36	14.43	18.482	0.677	0.499	0.842
A37	14.34	18.294	0.712	0.556	0.839
A38	14.67	20.046	0.486	0.283	0.860
A39	14.55	18.238	0.662	0.483	0.844
A40	14.32	18.583	0.601	0.390	0.850
A41	14.48	19.975	0.523	0.335	0.857

Appendix II(K): Value Chain Management

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Firm Value Chain	21.61	47.668	0.722	0.572	0.901
A42	21.25	45.688	0.718	0.601	0.900
A43	21.17	45.933	0.738	0.647	0.899
A44	21.02	45.462	0.665	0.534	0.904
A45	21.32	45.156	0.743	0.604	0.898
A46	21.32	46.624	0.631	0.470	0.906
A47	21.51	46.862	0.728	0.594	0.900
A48	21.48	48.162	0.606	0.515	0.907
A49	21.63	49.140	0.538	0.443	0.910
A50	21.34	45.714	0.705	0.540	0.901

Appendix III: Descriptive Analysis of the Micro Model

	Variables	Mean	SDV	Skewness	Std. Error	Kurtosis
A1	Capital requirements	1.671	0.806	2.111	0.201	6.592
A2	Access to distribution channels	2.164	0.724	0.954	0.201	1.887
A3	Access to raw materials	2.158	0.922	0.696	0.201	-0.211
A4	Access to specialized technologies	1.863	0.671	1.000	0.201	3.334
A5	Access to favourable locations	2.185	0.887	0.891	0.201	0.771
A6	Government regulation policy	2.151	0.957	0.939	0.201	0.431
A7	High operating costs	1.877	0.886	0.969	0.201	0.405
A8	High costs of establishing the business	1.904	0.746	0.764	0.201	0.815
A9	Price competition has been vigorous	1.932	0.907	1.317	0.201	2.023
A10	Rivals' efforts to improve quality	2.103	0.885	1.070	0.201	1.214
A11	Rivals' efforts to offer better custom service	2.207	0.904	0.720	0.201	0.647
A12	Lots of advertising/sales promotion	2.486	1.097	0.592	0.201	-0.322
A13	Active product innovation	2.322	1.043	0.835	0.201	0.033
A14	The rate of industry's growth	2.226	0.908	0.936	0.201	0.864
A15	High fixed and operating costs to set-up the industry	2.014	0.902	1.116	0.201	1.535
A16	There are few buyers	2.562	1.215	0.217	0.201	-1.387
A17	Buyers don’t purchase in large volume	2.363	1.009	0.646	0.201	-0.284
A18	One buyers’ purchase volume represent significant sales revenue	2.514	0.963	0.313	0.201	-0.959
A19	Buyers face switching costs	2.459	0.911	0.512	0.201	-0.189
A21	Buyers have good information about the industry	2.185	0.822	1.078	0.201	1.583
A22	Textile and apparel products represent significant fraction of buyers costs	2.432	0.924	0.523	0.201	0.267
A23	Firms can buy the inputs whenever they want	2.455	0.882	0.569	0.201	-0.002
A24	The producers are many compared to the available customers	1.938	0.970	0.906	0.201	0.111
A25	There are few substitutes for production inputs	2.685	1.155	0.342	0.201	-1.100
A26	Firms make specific investments to support transactions with specific input suppliers	2.205	0.846	0.701	0.201	0.098

A27	There are costs of changing suppliers	2.267	0.773	0.952	0.201	1.615
A28	Availability of substitute products	2.178	0.945	1.328	0.201	2.095
A29	Low prices of second-hand clothes	1.555	0.925	2.170	0.201	4.999
A30	Lack of barriers	1.473	0.745	1.721	0.201	3.342
A31	Durability of imported clothes	1.623	0.789	1.464	0.201	2.613
A32	Buyers preferences to buy	1.760	0.865	1.199	0.201	1.314
A33	Purchasing power of buyers	2.007	0.898	1.144	0.201	1.637
A34	Ability to develop culture that attract key staff	2.062	1.005	1.239	0.201	1.273
A35	Ability to hire staff whose personality fits the company	1.678	0.742	1.112	0.201	1.378
A36	Ability to acquire key qualifications suitable for the work	1.822	0.811	0.967	0.201	0.763
A37	Ability to consider partner's skills in activities	1.836	0.788	0.901	0.201	0.753
A38	Ability to acquire new technologies	1.849	0.817	1.056	0.201	1.468
A39	Effective strategic leadership that is able to cope with the technological challenges	1.568	0.733	1.200	0.201	1.066
A40	Adequate strategies for capacity building (investment in human capital)	1.712	0.886	1.203	0.201	0.737
A41	Enhancing modern organizational culture	1.925	0.848	0.972	0.201	0.710
A42	Inbound logistics	1.801	0.711	1.126	0.201	3.004
A43	Ability to manage operations activities	2.582	1.106	0.300	0.201	-0.752
A44	Ability to manage outbound logistics	2.658	1.013	0.086	0.201	-0.739
A45	Ability to manage marketing and sales logistics	2.788	1.065	0.088	0.201	-0.676
A46	Ability to manage firm infrastructure	2.493	1.072	0.274	0.201	-0.580
A47	Ability to manage human resources	2.510	1.106	0.254	0.201	-0.758
A48	Ability to manage technology development	2.288	0.975	0.479	0.201	0.428
A49	Use of research and development	2.336	0.956	0.240	0.201	-0.644
A50	Ability to manage procurement process	2.144	0.954	0.480	0.201	-0.458

Appendix IV: Descriptive Analysis of Macro Model

S/No	Variable	Mean		Std Dev	Variance	Skewness		Kurtosis	
		Statistic	Std Error	Statistic	Statistic	Statistic	Std Error	Statistic	Std Error
1	Skilled number of employees	1.74	.068	.705	.497	1.242	.234	2.785	.463
2	Scientific, technical and market knowledge	1.67	.059	.611	.373	.319	.234	-.629	.463
3	Labour costs	1.98	.087	.901	.811	.985	.234	.487	.463
4	Cost and accessibility of capital resources	1.70	.063	.647	.419	1.230	.234	5.030	.463
5	Latest technology for production of quality textiles	1.66	.070	.726	.527	1.519	.234	4.314	.463
6	Lack of research and training centres	1.61	.054	.562	.316	.213	.234	-.824	.463
7	Infrastructure (roads, railways, ports etc)	1.86	.060	.621	.386	1.063	.234	5.296	.463
8	National and industry efforts for research and development investment	1.92	.069	.715	.512	1.228	.234	3.639	.463
9	Absence of strong local demand	2.02	.097	1.000	1.000	1.116	.234	.761	.463
10	Desire and ability of Tanzanians to buy local textiles and apparel products	2.22	.108	1.119	1.251	.780	.234	-.511	.463
11	Inability to understand customer needs	2.15	.096	.989	.977	1.245	.234	1.356	.463
12	Inability to produce quality clothes compared to imported ones	2.15	.092	.950	.902	.839	.234	-.087	.463
13	Inability to produce varieties needed by Tanzanians	2.30	.096	.993	.985	.722	.234	-.317	.463
14	Inadequate accessibility to buyers	2.29	.087	.901	.811	.732	.234	-.200	.463
15	Low size and growth of Tanzania's textile market	2.13	.083	.859	.737	.927	.234	.511	.463
16	Low income of consumers	2.55	.107	1.109	1.231	.417	.234	-.949	.463
17	Lack of sophisticated and demanding local buyers	2.37	.089	.917	.840	.606	.234	-.503	.463
18	Lack of efficient, early, rapid preferential access	2.20	.102	1.050	1.103	.792	.234	-.369	.463
19	Poor linkages	2.15	.084	.867	.751	1.033	.234	.620	.463
20	Low development of value chains	2.00	.073	.752	.566	.813	.234	1.026	.463
21	Poor information flow	2.16	.083	.859	.739	.867	.234	.366	.463
22	Inadequate cluster programme	2.00	.075	.777	.604	.861	.234	.966	.463
23	Lack of business strategy	1.72	.071	.737	.543	1.075	.234	1.527	.463
24	Non-existence of strong domestic competitors	2.29	.091	.942	.887	.767	.234	-.021	.463
25	Attitudes of workers towards textiles and apparel	2.23	.094	.977	.954	.626	.234	-.272	.463

	management								
26	The quality of human resources	1.97	.082	.852	.726	.801	.234	.751	.463
27	Government regulatory framework	1.95	.076	.782	.611	1.049	.234	2.098	.463
28	Social norms of workers and managerial attitudes	2.06	.074	.763	.582	.945	.234	1.959	.463
29	Limited FDI	1.96	.068	.699	.489	.894	.234	1.767	.463
30	Type of education	2.05	.085	.884	.781	.995	.234	.984	.463
31	Process and products upgrading	2.01	.072	.746	.557	.957	.234	1.472	.463
32	Ability of firms to position in domestic and foreign markets	2.08	.091	.943	.889	.931	.234	.446	.463
33	To design policies for industry competitiveness	1.46	.052	.537	.288	.543	.234	-.945	.463
34	To regulate the industry	1.65	.058	.600	.360	.580	.234	.919	.463
35	To have minimum intervention, and leave market forces work	2.06	.089	.920	.846	.851	.234	.106	.463
36	To forbid imports of second hand clothes	1.97	.088	.906	.820	.910	.234	.276	.463
37	The government to deal with corrupt practices in the industry	1.46	.052	.537	.288	.543	.234	-.945	.463
38	To invest directly in building textiles and apparel factories	1.99	.085	.874	.764	1.400	.234	2.874	.463
39	To provide subsidies and other assistances	1.80	.049	.504	.254	-.329	.234	.205	.463
40	To negotiate for good market access conditions	1.79	.065	.669	.448	1.226	.234	3.442	.463
41	To provide subsidies to enable local firms to compete	1.72	.054	.563	.317	.356	.234	1.378	.463
42	To build capacities for local firms to innovate	1.70	.058	.602	.363	.764	.234	2.326	.463

Appendix V: The Acceptable Fit Indices Threshold

Fit Index	Abbreviation	Acceptable Values
Chi-square Statistic	$\chi 2$	The p value should be greater than 0.05 for a good model fit. A non-significant value indicates that there is no difference between the sample variance-covariance matrix and the estimated variance-covariance matrix, implying the researcher's model is right. The value is sensitive to sample size and model complexity, and the values tends to be greater when sample size or the number of observed variables increases even if the difference between the observed and estimated covariance matrices are identical.
Root mean square error of approximation	RMSEA	The RMSEA is used to correct the impact of sample size or model complexity on $\chi 2$. Values less than 0.05 indicate good model fit, a value of 0 is a perfect fit.
Goodness of Fit	GFI	0 (no fit) to 1 (perfect fit).
Normed Chi-square Statistic		0 (no fit) to 1 (perfect fit).

Source: Nguyen, 2010; Hair *et al*. 2006, Edward and Joost (2012), Schumacker and Lomax (2014).

Appendix VI: The Directory of Textile and Apparel Firms

SN	Name of the Firm	Region	Number of Questionnaires Returned
1	Nida Textile Mills (t), Ltd	DAR ES SALAAM	18
2	21st Century Textile	DAR ES SALAAM	13
3	Blankets & Textiles Manufacturer, Ltd	DAR ES SALAAM	10
4	African Pride Textiles Mills	DAR ES SALAAM	4
5	Derma International Limited	DAR ES SALAAM	2
6	Texage Tanzania	DAR ES SALAAM	3
7	Fashion Fabric Textile Ltd	DAR ES SALAAM	1
8	Mariedo Women Clothing	DAR ES SALAAM	9
9	Textile & Garments Ltd	DAR ES SALAAM	3
10	Karibu Textiles Mills, Ltd	DAR ES SALAAM	3
11	K. H. Khimji & Sons	DAR ES SALAAM	2
12	Kilimanjaro Textile Corporation Ltd	DAR ES SALAAM	5
13	Morco Textiles Limited	DAR ES SALAAM	3
14	KiboTrade Textile Mills Ltd.	DAR ES SALAAM	2
15	Pabari Textiles	DAR ES SALAAM	1
16	Quality Textiles	DAR ES SALAAM	5
17	Tanzania Uniform & Clothing Corporation Ltd	DAR ES SALAAM	5
18	Tanzania Clothing Co. Ltd	DAR ES SALAAM	9
19	Tanganyika Textile Industries Ltd	DAR ES SALAAM	7
20	Tanzania China Friendship Textile Co. Ltd	DAR ES SALAAM	6
21	Tanzania Business Womens Textile	DAR ES SALAAM	4
22	Tanzania Knitwear Co. Ltd	DAR ES SALAAM	1
23	Tandale Carpet Cooperation	DAR ES SALAAM	8
24	Marvelous Flotea Company Ltd	DAR ES SALAAM	1
25	Tandale Carpet Cooperation	DAR ES SALAAM	2
26	Textile Manufacturers Association	DAR ES SALAAM	1
27	Traditional Textiles Ltd.	DAR ES SALAAM	2
28	Kiliimanjaro Textile Mills Ltd	ARUSHA	4

29	Jambo Textiles	ARUSHA	5
30	SUNFLAG Tanzania Ltd	ARUSHA	14
31	A TO Z Textile Mills	ARUSHA	12
32	M. B. Textiles Ltd	ARUSHA	2
33	New Kilimanjaro Textile Mills, Ltd	ARUSHA	7
34	New Tabora Textiles	TABORA	30
	Total		**204**